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D.T.E. 98-128

Joint Petition of Eastern Enterprises and Colonial Gas Company for approval by the Department of Telecommunications and Energy pursuant to G.L. c. 164, § 96, of the merger between these two companies. Eastern Enterprises and Colonial Gas Company also seek the Department's approval of a Rate Plan for Colonial Gas Company, pursuant to

G.L. c. 164, § 94.

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I. INTRODUCTION

On December 24, 1998, Eastern Enterprises ("Eastern"), Colonial Gas Company ("Colonial"), and Merger Sub⁽¹⁾ (collectively, "Petitioners"), filed with the Department of Telecommunications and Energy ("Department") a petition for approval of: (1) the merger of Merger Sub and Colonial pursuant to G.L. c. 164, § 96; (2) Colonial's rate plan ("Rate Plan")

pursuant to G.L. c. 164, § 94; (3) the issuance and sale of 100 shares of common stock, \$1.00 par value, by Merger Sub to Eastern pursuant to G.L. c. 164, § 14; and (4) the transfer of Colonial's franchise that may be deemed to occur as a result of the merger and related transactions. In connection with the last request, Petitioners also seek a determination that no approval by the Massachusetts General Court is required under G.L. c. 164, § 21 (*id.*). The Department docketed this matter as D.T.E. 98-128.

Pursuant to notice duly issued, the Department conducted public hearings in Lowell and Barnstable on February 3 and February 8, 1999, respectively, to afford interested persons an opportunity to comment on the Petitioners' proposal. The Department granted the petitions to intervene of the United Steelworkers of America, AFL-CIO, Locals 12007, 12008 12086, and 13507. The Attorney General of the Commonwealth ("Attorney General") intervened as of right pursuant to G.L. c. 12, § 11E. The Department granted limited participant status to Associated Industries of Massachusetts, Bay State Gas Company, Cambridge Electric Light Company, Commonwealth Electric Company, Commonwealth Gas Company, Massachusetts Electric Company, and The Energy Consortium.

The Department conducted evidentiary hearings at its Boston offices on April 12 through April 16, and April 20 through April 23, 1999. The Petitioners sponsored the testimony of six witnesses: (1) Walter J. Flaherty, Eastern's senior vice president and chief financial officer; (2) Nickolas Stavropoulos, Colonial's executive vice president of finance and marketing, and chief financial officer; (3) James D. Hempstead, vice president of the Global Power Group at Merrill Lynch & Co.; (4) Joseph F. Bodanza, senior vice president and treasurer of Boston Gas Company ("Boston Gas"); (5) William Luthern, vice president of gas resources for Boston Gas; and (6) Dennis Carroll, Colonial's vice president and treasurer. The Attorney General sponsored the testimony of A.I. Seabron Adamson, president of London Economics, Inc., and Raymond Hartman, director of Cambridge Economics, Inc. The Petitioners and the Attorney General submitted initial and reply briefs on May 12 and May 21, 1999.

Eastern operates as an unincorporated voluntary association established under a Declaration of Trust dated July 18, 1929, as amended (Exh. WJF-1, at 2). Eastern's principal subsidiaries are Boston Gas, Essex Gas Company ("Essex") and Midland Enterprises, Inc. ("Midland") (*id.*). Boston Gas and Essex are local distribution companies ("LDCs") and "gas companies" within the meaning of G.L. c. 164, § 1. Boston Gas serves approximately 530,000 residential and commercial and industrial customers in Boston and 73 other communities in eastern and central Massachusetts (*id.*). Essex serves approximately 42,000 customers, primarily residential customers, as well as some commercial and light industrial customers, in 17 municipalities in eastern Massachusetts (Exh. WJF-1, at 2-3). Following Department approval under G.L. c. 164, § 96, in Eastern-Essex Acquisition, D.T.E. 98-27 (1998), Essex was acquired by Eastern on September 30, 1998 (*id.*). Midland transports coal and other dry bulk commodities on the Ohio and Mississippi Rivers, the Gulf Intercoastal Waterway, and the Gulf of Mexico (*id.*).⁽²⁾

Like Boston Gas and Essex, Colonial is an LDC and a "gas company" within the meaning of G.L. c. 164, § 1. Colonial's stock is publicly traded. Colonial serves approximately 152,000 customers in 24 municipalities, northwest of Boston and on Cape Cod (Exh. NS-1, at 2). As part of the merger transaction, Eastern would also acquire Transgas, Inc. ("Transgas"), Colonial's non-utility liquified-natural gas transport affiliate (Exh. WJF-1, at 12).

II. STRUCTURE OF THE MERGER

The Petitioners request Department approval of an Agreement and Plan of Reorganization ("Merger Agreement"), which would result in Colonial becoming a wholly-owned subsidiary of Eastern (Petition at 2). To effect the merger, Eastern intends to form Merger Sub as a wholly-owned subsidiary of Eastern; Merger Sub would issue and sell 100 shares of common stock with a \$1.00 per share par value to Eastern in exchange for \$100 (*id.*). Merger Sub would serve as a shell corporation for the purpose of transforming Colonial from an independent company to a wholly-owned subsidiary of Eastern via the merger of Colonial into Merger Sub (*id.*). Merger Sub would be the surviving corporation operating under the name "Colonial Gas Company" (*id.*).

By virtue of the merger, each outstanding share of Colonial's common stock would be converted into the right to receive: (1) \$37.50 in cash, without interest; or (2) a number of shares of Eastern's common stock to be determined by dividing \$37.50 by an amount equal to the average closing price of Eastern common stock for a specified period prior to the effective date of the merger;⁽³⁾ or (3) a combination of cash and stock (id. at 3-4). The book value of Colonial's stock is \$14.11 per share (Exh. WJF-1, at 12). The Petitioners estimate that the merger would result in an acquisition premium⁽⁴⁾ of approximately \$207.2 million (id.).⁽⁵⁾

III. STANDARD OF REVIEW

The Department's authority to review and approve mergers and acquisitions is found at G.L. c. 164, § 96, which, as a condition for approval, requires the Department to find that mergers and acquisitions are "consistent with the public interest." In Boston Edison Company, D.P.U. 850, at 6-8 (1983), the Department construed § 96's standard of consistency with the public interest as requiring a balancing of the costs and benefits attendant on any proposed merger or acquisition. The Department stated that the core of the consistency standard was "avoidance of harm to the public." D.P.U. 850, at 5. Therefore, under the terms of D.P.U. 850, a proposed merger or acquisition is allowed to go forward upon a finding by the Department that the public interest would be at least as well served by approval of a proposal as by its denial. D.P.U. 850, at 5-8; NIPSCO-Bay State Acquisition, D.T.E. 98-31, at 9 (1998); Eastern-Essex Acquisition at 8. The Department has reaffirmed that we would consider the potential gains and losses of a proposed merger to determine whether the proposed transaction satisfies the § 96 standard. NIPSCO/Bay State Acquisition at 8; Eastern-Essex Acquisition at 8; Boston Edison Company, D.P.U./D.T.E. 97-63, at 7 (1998). The public interest standard, as elucidated in D.P.U. 850, must be understood as a "no net harm," rather than a "net benefit" test.⁽⁶⁾ NIPSCO/Bay State Acquisition at 9-10; Eastern-Essex Acquisition at 8. The Department considers the special factors of an individual proposal to determine whether it is consistent with the public interest. NIPSCO-Bay State Acquisition, at 10; Eastern-Essex Acquisition at 8; D.P.U./D.T.E. 97-63, at 7; Mergers and Acquisitions, D.P.U. 93-167-A at 7-9 (1994). To meet this standard, costs or disadvantages of a proposed merger must be accompanied by offsetting benefits that warrant their allowance. NIPSCO-Bay State Acquisition at 10; Eastern-Essex Acquisition at 8; D.P.U./D.T.E. 97-63, at 7; Mergers and Acquisitions at 18-19.

Various factors may be considered in determining whether a proposed merger or acquisition is consistent with the public interest pursuant to G.L. c. 164, § 96. Some of these factors were set forth in Mergers and Acquisitions: (1) effect on rates; (2) effect on service quality; (3) resulting net savings; (4) effect on competition; (5) financial integrity of the post-merger entity; (6) fairness of the distribution of resulting benefits between shareholders and ratepayers; (7) societal costs, such as job loss; (8) effect on economic development; and (9) alternatives to the merger or acquisition. NIPSCO-Bay State Acquisition at 10; Eastern-Essex Acquisition at 8-9; D.P.U./D.T.E. 97-63, at 7-8; Mergers and Acquisitions at 7-9. This list is illustrative and not exhaustive, and the Department may consider other factors, or a subset of these factors, when evaluating a §

96 proposal. NIPSCO-Bay State Acquisition at 10; Eastern-Essex Acquisition at 9; Mergers and Acquisitions at 9.⁽⁷⁾

With respect to the recovery of acquisition premiums, the Department has found that if a petitioner can demonstrate that denial of recovery of an acquisition premium would prevent the consummation of a particular merger that otherwise would satisfy G.L. c. 164, § 96, then the Department may be willing to consider recovery of an acquisition premium.⁽⁸⁾ The Department will determine whether an acquisition premium should be allowed in a specific case by applying the general balancing of costs and benefits under the § 96 consistency standard. NIPSCO-Bay State Acquisition, at 11; Eastern-Essex Acquisition, at 9. Thus, allowance or disallowance of acquisition premium would be but one part of the cost/benefit analysis under the § 96 consistency inquiry. NIPSCO-Bay State Acquisition at 11; Eastern-Essex Acquisition at 9.

The Department's determination whether the merger or acquisition meets the requirements of § 96 must rest on a record that quantifies costs and benefits to the extent that such quantification can be made. NIPSCO-Bay State Acquisition at 11; Eastern-Essex Acquisition at 9. A § 96 petitioner that expects to avoid an adverse result cannot rest its case on generalities, but must instead demonstrate benefits that justify the costs, including the cost of any premium sought. NIPSCO-Bay State Acquisition at 11; Eastern-Essex Acquisition at 10; Mergers and Acquisitions at 7.

IV. SPECIFIC CONSIDERATIONS OF THE MERGER

Customarily, the Department considers nine factors when determining whether a merger meets the § 96 standard. In considering this proposal, the Department's analysis focuses on the following factors: (1) the effect on rates and resulting net savings;⁽⁹⁾ (2) the effect on service quality; (3) the financial integrity of the post-merger entity; (4) the fairness of the distribution of resulting benefits between shareholders and ratepayers; (5) the societal costs; and (6) the acquisition premium.

A. Effect on Rates and Resulting Net Savings

1. Base Rate Freeze and Tracking Mechanism

a. Introduction

The Petitioners' Rate Plan consists of two components: (1) a ten-year base rate freeze and (2) a 2.2 percent reduction in the burner-tip price of gas for Colonial ratepayers (Exh. NS-1, at 7).⁽¹⁰⁾ The Petitioners propose to adjust the rate freeze for inflation and for certain exogenous costs (Exh. JFB-1, at 7). The Petitioners define exogenous costs as those costs that result from changes in tax laws, in accounting principles, or in legislative, judicial, or regulatory mandates, including changes in the Department's Lost Base Revenue ("LBR") recovery policy (Exh. JFB-2, at 3).⁽¹¹⁾

The Petitioners propose a threshold of \$140,000 for any individual exogenous cost that occurs annually (Exh. DTE-4-20, at 2; Tr. 7, at 930-931; Petitioners Reply Brief at 12). The Petitioners also request the opportunity to file for a change in Colonial's rates if the Gross Domestic Product Price Inflator ("GDP-PI") increases by more than 5.0 percent in a twelve-month period (Exh. JFB-1, at 7).

The Petitioners state that in the absence of a merger, Colonial would need to have filed a rate case in April 2000 along with a PBR plan (Exh. NS-1, at 9). In the instant case, Colonial has developed and filed a tracking mechanism to determine (1) the savings to be achieved by the avoidance of a rate case during the ten-year period of the rate freeze, and (2) what its revenue requirement would be at the end of year ten of the rate freeze had Colonial operated on a stand-alone basis (Exh. JFB-1, at 25-29; Tr. 4, at 630). Colonial's revenue requirement, if it were to remain a stand-alone company at the end of year ten of the rate freeze, would be compared to Colonial's revenue requirement as a merged company to determine the savings associated with the ten-year rate freeze. The Petitioners propose to recover the acquisition premium and return on Eastern's cash investment in Colonial and Transgas ("the return on the cash advance") over 40 years. Any savings associated with the ten-year rate freeze would be used to determine the

(1) amount of any recoverable acquisition premium and (2) return on the cash advance in years eleven through 40 (*id.* at 631).

To determine the savings associated with the ten-year rate freeze, first Colonial calculated \$92 million as the cast-off revenue requirement⁽¹²⁾ for its tracking mechanism (which incorporates a claimed \$8.5 million revenue deficiency across the Lowell and Cape Cod divisions for the year 2001), based on a 1997 test year (Exh. JFB-2 (Rev.) at 3).⁽¹³⁾ Second, the Petitioners estimated base rate increases for the ten-year period ending June 2009 based on a performance-based regulation ("PBR") formula of inflation minus a productivity offset (Exhs. JFB-2, at 3; DTE 4-8). The Company based inflation on a GDP-PI forecast developed by Wharton Economic Forecast Associates, Inc. ("WEFA") (Exh. JFB-2). The Petitioners propose a productivity offset of 1.0 percent, which represents the arithmetic average of the 1.5 percent productivity offset⁽¹⁴⁾ established by the Department in Boston Gas' last rate case (which included the adoption of a price cap PBR) and the 0.5 percent consumer dividend (which is a component of the 1.5 percent productivity factor). Boston Gas Company, D.P.U. 96-50-C (Exh. JFB-2, at 3; Tr. 6, at 893-894).⁽¹⁵⁾ Using the cast-off revenue requirement of \$92 million and applying the price cap formula for the years 2000 through 2009, the Petitioners calculated the merger's total benefit to ratepayers at \$127.6 million⁽¹⁶⁾ at the end of the rate freeze (Exh. JFB-2 (Rev.) at 3).⁽¹⁷⁾ The second function of the tracking mechanism refers to the determination of Colonial's costs as a stand-alone company. The Petitioners propose to calculate these costs by starting with the same cast-off revenue requirement and formula as described above. To that cast-off revenue requirement, the Petitioners propose to apply (1) actual GDP-PI experienced each year during the ten-year rate freeze, and (2) the productivity offset used in the Boston Gas PBR in each of those years, adjusted for firm throughput (Exh. JFB-1, at 27-28; Tr. 6, at 902-903).

b. Positions of the Parties

i. Attorney General

The Attorney General submits that the Department should reject the ten-year rate freeze and the Petitioners' claimed savings because: (1) the Petitioners' proposal is contrary to the legislative intent that gas and electric companies be subject to PBR; (2) there is no record evidence that Colonial would have received an \$8.5 million rate increase if it filed a rate case in 2000; (3) the cast-off revenue requirement is based on flawed assumptions; and (4) 3.2 percent, not 1.0 percent is the most appropriate productivity offset, if Colonial's rates were to be subject to a price cap formula (Attorney General Brief at 13, 35).

First, according to the Attorney General, the Legislature endorsed the Department's authority to establish and require PBR for each distribution, transmission, and gas company (*id.* at 35 n.25). The Attorney General points out that the Department put all gas and electric utilities on notice to include PBR proposals with rate filings. The Attorney General argues that Colonial did not comply with the Department's directive (*id.* at 36, citing Fitchburg Gas and Electric Light Company, D.T.E. 98-51, at 7 (1998)).

Second, the Attorney General asserts that the Department should reject the Petitioners' claim that, absent the rate freeze, Colonial would be allowed to increase its rates in November 2000 by \$8.5 million (*id.* at 14). The Attorney General points out that Colonial's weather-normalized return on common equity ("ROE") in 1998 was 11.9 percent, and concludes that a revenue deficiency of nearly 10.0 percent would be inconsistent with these earnings (*id.*, citing Exh. AG-2-22).

Further, the Attorney General argues that the Petitioners have presented a cost of service that is inconsistent with Department precedent, because they create a 1999 "test year" by inflating 1997 revenues and costs and further adjust that cost of service for a 2000-2001 "rate year" (Attorney General Brief at 14). The Attorney General argues that the cost of service presented by the Petitioners is inconsistent with Department precedent and "ignores logic and defies the norms of regulatory principles" (*id.*). The Attorney General recommends increasing 1997 revenues through 2001 by the same rate as the expected increase in the number of customers ("system growth"), or 3.26 percent (*id.* at 15). Adopting this recommendation would result in revenues of \$11,546,494,⁽¹⁸⁾ which the Attorney General maintains would more than offset the revenue deficiency (*id.* at 15 n.12).

Third, the Attorney General asserts that it is impossible to determine the future savings that would result from the merger because the cast off revenue requirement is based on flawed assumptions (*id.* at 40-41). The Attorney General's fourth argument relates to the level of productivity offset. It is described and addressed below in Section IV.A.4.

The Attorney General presents specific arguments on rate base, expenses and capital structure issues relating to the components of the Petitioners' revenue deficiency, which are described and addressed below in Section IV.A.2.

ii. Petitioners

As to the Attorney General's request that the Department reject the proposed tracking mechanism, the Petitioners state that the Attorney General offers no alternative proposal (Petitioners Reply Brief at 43). The Petitioners argue that the Department (1) views PBR as an opportunity, not a guarantee, for lower rates than might otherwise exist; and (2) recognizes that efficiencies gained through consolidation may be greater than efficiencies made by small companies on a stand-alone basis, even under PBR (id. at 39-40). Specifically, the Petitioners maintain that unless the productivity offset is greater than the rate of inflation, a price-cap formula in a rate-setting PBR would not lead to a reduction in rates (id. at 40). The Petitioners also contend that G.L. c. 164, § 1E(a), authorizes, but does not mandate that the Department promulgate rules and regulations to establish and require PBR. Thus, it is within the Department's discretion to determine that a merger proposal and Rate Plan will result in the attainment of greater efficiencies than under PBR (id. at 40).

With respect to the Attorney General's argument that the Department should reject the rate freeze, the Petitioners respond that Colonial has not filed for a base rate increase since 1993 and would need a rate increase to recover the significant investments in information technology required to (1) achieve Y2K compliance, (2) implement service-quality measures, and (3) implement the systems necessary to comply with the Department's unbundling directives (id. at 11, citing Exh. NS-1, at 8). In response to the Attorney General's assertion that Colonial is over-earning, as evidenced by its 1998 rate of return, the Petitioners maintain that a single year of financial results provides an insufficient basis for determining a particular company's earnings (id. at 11 n.4). Moreover, the Petitioners contend that financial reports of return on equity are not indicative of the return on rate-base calculation that is used for ratemaking purposes (id.). Instead, the Petitioners argue that the type of cost of service calculation performed by the Petitioners is necessary for purposes of establishing a tracking mechanism (id.).

The Attorney General asserts that revenues should be increased by system growth. However, the Petitioners contend that Colonial did not include in its utility plant, the additions for repairs and replacement of plant or new mains, services and meters (totaling \$27 million per year) that would be necessary to support system growth (Petitioners Reply Brief at 13 n.5). In addition, the Petitioners maintain that the Attorney General has overestimated the increased revenues by including four years of additional growth rather than the two years that would be included in a year 2000 rate filing (id.).

The Attorney General criticizes the Petitioners' use of projected test year and expenses. The Petitioners point out that the Attorney General advocates that a rate-case assessment of Colonial's current revenue requirement be performed by applying traditional cost of service principles to the Petitioners' proposal (id. at 13). According to the Petitioners, the

Department's standard regarding the approval of mergers does not require that a current revenue requirement be made (id.). The Petitioners' arguments on the appropriate productivity offset are described and discussed below in Section IV.A.4.

The Petitioners state that the tracking mechanism⁽¹⁹⁾ is an integral component of the Rate Plan and will present an objective and administratively efficient means for determining the level of merger-related costs eligible for recovery following the expiration of the rate freeze (id. at 41).

c. Analysis and Findings

Inserted in 1997, Section 1E(a) of General Law Chapter 164 states, in pertinent part, that "[t]he Department is hereby authorized to promulgate rules and regulations to establish and require performance based rates for each distribution, transmission and gas company." The language of the statute does not obligate the Department to implement PBR, it simply authorizes it to do so. In construing § 1E(a), the Attorney General "ignores the permissive language of the statute and purports to turn a statutory grant of authority into a statutory mandate, thereby unduly limiting the very authority granted." Massachusetts Oilheat Council v. Department of Public Utilities, 418 Mass 798, 803-804 (1994). Therefore, the Department rejects the Attorney General's assertion that performance based rates are mandated under G. L. c. 164, § 1E(a).⁽²⁰⁾ The statute's language is discretionary.

Before Section 1E(a) was enacted, the Department on its own had endorsed PBR mechanisms and strongly encouraged companies to devise and submit incentive proposals. Incentive Regulation, D.P.U. 94-158, at 65 (1995). Moreover, the Department had directed companies that request a general rate increase without a companion PBR proposal to explain why no incentive proposal was filed; and, as correctly noted by the Attorney General, the Department has criticized one company for not doing so. Id. at 65-66; D.T.E. 98-51, at 6-7 (1999). The Department has taken action to encourage and implement PBR and will continue to do so. Further, while quality of service standards are required to be set under a PBR once the Department has exercised the discretion granted by G.L. c. 164, § 1E, quality of service also is a factor to be considered under the Department's standard of review for mergers. Mergers and Acquisitions at 7-8.

There are more ways to promote efficiency than through PBR. This proceeding is a request to approve a merger that incorporates a ten-year rate freeze; it is not a traditional general rate case. This petition offers other ways to promote and achieve efficiency, as valid as PBR. Therefore, the Department finds that the Petitioners' proposal to freeze rates for a ten-year period does not conflict either with G.L. c. 164, § 1E(a), or with the Department's efforts to implement PBR. See Eastern-Essex Acquisition at 16-17; see also NIPSCO-Bay State Acquisition at 18 n.23.

With respect to the argument raised by the Attorney General concerning claimed over-earnings by Colonial, the Department concludes that there is no persuasive record evidence to support the Attorney General's assumption that Colonial would not incur a

revenue deficiency. Record evidence and regulatory experience with this and other companies, in fact, establish the contrary probability (i.e., that a Colonial rate case would be likely during the relevant period absent a merger) (Exh. NS-1, at 8-9). A single year of financial data provides an insufficient basis for determining a particular company's future earnings. Eastern-Essex Acquisition at 18; See Boston Gas Company, D.P.U. 88-67 (Phase I) at 1-2, 427 (1988). The Department considers Colonial's ROE during 1998 to be within a reasonable range consistent with ROEs granted by the Department in recent rate proceedings. Colonial's earned ROE of 11.9 percent probably would not, in and of itself, trigger a Department investigation under G.L. c. 164, § 94. Moreover, Colonial's rate case history indicates that Colonial has filed a base rate case on average approximately every three years. The Department notes that Colonial last requested a general rate increase in 1993. Past rate case practices do not determine, but are a reasonably reliable indicator of future conduct. The Petitioners have provided a projection of what Colonial's financial situation would likely be in the year 2000. Such a projection of future events cannot be evaluated entirely using the Department's rate case precedent, which is based upon the use of an historic test year. However, the projection can be judged in terms of whether it is substantiated by past experience, and supported by sound theoretical reasoning. The testimony of Mr. Stavropoulos (Exhs. NS-1, at 8-9; NS-2), in which he described Colonial's cast-off revenue requirement and the expected trends of specific cost items, presents a compelling case that Colonial would have filed a general rate case in the year 2000. For example, Colonial would have had to purchase advanced technology to ensure that the Company's computer systems would be Y2K compliant. Given that the Company would have had additional expenses and that Colonial traditionally filed for a rate increase every three years, the Department is satisfied that, in the absence of a merger, Colonial likely would file a general rate case in or near the year 2000.⁽²¹⁾

With respect to the Attorney General's argument regarding system growth, the Department notes that the Attorney General's analysis includes no corresponding increase in utility plant for additions, repairs and replacement of plant or new mains, services and meters to account for the increased system growth. The Department finds that it would be unreasonable to adjust revenues to account for system growth without a corresponding adjustment in rate base. There is no information on the record to warrant adjusting rate base for system growth along the lines urged by the Attorney General. Accordingly, the Department rejects the Attorney General's proposal.

The proposed Rate Plan, submitted as part of the merger proposal, is not a rate case with a traditional historic test year. The revenue requirement proposed by the Petitioners is not used to determine how much the Company prospectively can collect from ratepayers. Rather, the Petitioners present the revenue requirement both as a factor in determining the claimed offsetting benefits associated with the merger, and as a basis for comparing Colonial's costs as a stand-alone company with those that Colonial would incur as a wholly-owned subsidiary of Eastern. The revenue requirement calculation is not used for setting rates under § 94.⁽²²⁾ The circumstances of a merger require the Department to develop a means to determine that the costs do not exceed the benefits. See NIPSCO-Bay State Acquisition at 68. As previously noted, the Department has indicated that "a petitioner who expects to avoid an adverse outcome should not rest its case on mere

generalities . . . [r]ather, the Petitioners must demonstrate benefits that justify costs, including the cost of any acquisition premium sought." Id. In this case, the Petitioners propose to meet this requirement via the use of a tracking mechanism to measure merger-related savings.⁽²³⁾ Id.

As part of the tracking mechanism, the Petitioners proposed, as a starting point, a revenue requirement of \$92 million that includes a claimed revenue deficiency of \$8.5 million in the year 2000. By its nature, the determination of a revenue requirement in the year 2000 requires the Department to consider both historic and projected costs. Therefore, reliance on precedent based solely on historic test-year cost of service is not a sufficient guide in this case. Moreover, as stated earlier, the Petitioners' proposal is not a rate case filing pursuant to G.L. c. 164, § 94, and G.L. c. 25, § 18, which entails the suspension and review of proposed rates for a six-month period. Rather, in this case, the Department evaluates the reasonableness of each component of the cast-off revenue requirement for the purpose of determining the starting point for the model of Colonial's revenue requirement, absent the merger for the limited purpose of determining (1) the savings associated with the avoidance of a rate case over the ten years; and (2) what Colonial's revenue requirement would be at the end of year ten of the rate freeze had Colonial operated on a stand-alone basis. The Department traditionally has used the historic test-year method, as adjusted for known and measurable changes. Eastern Edison Company, D.P.U. 1580, at 13-17 (1984). However, § 96 requires a broader judgment for which § 94 techniques are helpful, but not necessarily dispositive. (See footnote 19 supra.) The evaluation of these costs is neither subject to Department rate case precedent nor to the same level of precision as generally can be attained in a traditional rate case proceeding. Therefore, while the Department will rely on our rate case standards of review to guide our decisions, where appropriate, the Department's review of the cast-off revenue requirement and underlying issues must be based on whether the figures proposed by the Petitioners are reasonable estimates.

2. Cast-off Revenue Requirement Issues

a. Rate Base i. Introduction

Colonial operates non-contiguous Cape Cod and Lowell divisions.⁽²⁴⁾ The Cape Cod division's total rate base of \$118,836,085 incorporates \$8,203,058 in additions to utility plant, relating to the completion of the South Yarmouth LNG tank; to the completion of the Computer-Aided Dispatch ("CAD") system, Automated Mapping/Facilities Management ("AM/FM"), and the Utiligent customer service systems, and the Cape Cod division's share of certain technology investments⁽²⁵⁾ (Exh. DTE-4-3 (Rev.) at 29; Tr. 9, at 1198). The Lowell division's total rate base of \$132,300,521 incorporates \$10,092,056 in additions to utility plant, relating to the purchase of its headquarters at 40 Market Street and to various technology investments (Exh. DTE-4-3 (Rev.) at 29, 29-10; Tr. 9, at 1198).

ii. Positions of the Parties

(A) Attorney General

The Attorney General criticizes two features of Colonial's rate base: (1) post-1997 investments in technology; and (2) deferred taxes. The Attorney General argues that the technology investments should not be included in plant since they were purchased after 1997 and the Department has historically not permitted "insignificant" additions to rate base, even if they are "known and measurable" (Attorney General Brief at 16, citing Policy Statements Concerning the Adoption of Year End Rate Base D.P.U. 160 (1981)).⁽²⁶⁾

With respect to the Petitioners' deferred tax balance calculation that is associated with deferred gas costs, the Attorney General asserts that the calculation is incorrect (id.). Specifically, the Attorney General argues that the deferred tax balance should be increased by \$49,095,561, because Department precedent requires that rate base be reduced by the full deferred tax balance (id. at 16-17, citing Commonwealth Electric Company, D.P.U. 88-135/151, at 14-16 (1989); Boston Gas Company, D.P.U. 93-60, at 67 (1993)). The Attorney General also contends that the Petitioners' South Georgia deferred tax calculation is incorrect (id. at 16-17).

(B) Petitioners

The Petitioners argue that Colonial's technology investments must be included in rate base. Although many of these expenses were incurred after 1997, the Petitioners claim that these investments were booked, and certainly would have been included in rate base had Colonial remained a stand-alone entity and filed a rate case in 2000 (Petitioners Reply Brief at 16-17).

The Petitioners contend that the Attorney General has erred in his calculation of the deferred tax balance (Petitioner Reply Brief at 19). The Petitioners assert that the Attorney General mistakenly added an earlier adjustment of \$7,192,180 to Colonial's total reserves, including recoverable fuel costs, \$43,404,973, less environmental deferred tax reserves of \$1,501,592, resulting in \$49,095,561 (id. at 19-20). Specifically, the Petitioners contend that their earlier adjustment (of \$7,192,180) resulted from a mathematical error in calculating the deferred federal and state taxes related to fuel (id.). The Petitioners argue that the correct figure is \$3,654,092, and that it must be deducted from the deferred income tax account resulting in the Petitioners' figure of \$38,249,289 (id.). Finally, the Petitioners argue that the Attorney General has miscalculated the South Georgia deferred tax adjustment by failing to consider the effects of the \$7,192,180 in rate base (id. at 20).

iii. Analysis and Findings

With respect to the additions to utility plant, for the purpose of determining the cast-off revenue requirement for the tracking mechanism, the Department is satisfied that these rate base additions would be made, absent the merger. In fact, the Petitioners have either already placed in service a number of post-1997 plant additions or would have done so

prior to the end of 1999, absent the merger (Exh. DTE 4-3 (Rev.) at 29-10; Tr. 9, at 1198-1199). Therefore, the Department accepts the inclusion of this plant for the purpose of determining Colonial's rate base, absent the merger.

The Department accepts the Petitioners' calculation for the deferred tax balance of \$38,249,289. It appears that the Attorney General's calculation is in error. The \$7,192,180 adjustment has been inadvertently added by the Attorney General and the \$1,501,592 for environmental reserves was not subtracted by the Attorney General (Exh. DTE 4-3 (Rev.) at 29-3). Nor did the Attorney General subtract the \$3,654,092 to reflect deferred taxes associated with deferred fuel costs.

The same basic error also affects the South Georgia calculation. Although \$7,192,180 was subtracted from rate base inadvertently, the amount was still accounted for properly with regard to the establishment of the deferred tax balance for Colonial. Therefore, the South Georgia deferred income tax accrual, as calculated by the Petitioners, is not affected. The Department accepts the Petitioners' South Georgia calculation.

In summary, the Department accepts the total of the adjustments to utility plant, the deferred tax balance, and the South Georgia calculation as a reasonable estimate for the purpose of determining Colonial's total rate base, absent the merger.

b. 401(k) Expense

i. Introduction

Colonial increased its 401(k) matching contribution from 6.0 percent to 7.0 percent in April 1998 (Exh. DTE 4-3 (Rev.) at 7-1). The Petitioners propose an adjustment of \$37,453 and \$40,381 for the Cape Cod and Lowell Divisions respectively in the calculation of the cast-off revenue requirement to reflect this increase over the 1997 levels (id. at 7).

ii. Positions of the Parties

(A) Attorney General

The Attorney General recommends that the Department reject the proposed adjustment to the cost of service to account for the increased 401(k) expense because the change is not known and measurable (Attorney General Brief at 25). The Attorney General states that the Department has determined that adjustments for 401(k) contributions must be based on the actual contributions by employees in the test year and not on projections (id., citing D.P.U. 93-60, at 105-106). The Attorney General argues that the Petitioners have provided no evidence that Colonial's employees would increase their 401(k) contributions

by any amount, and believes that the Petitioners' assumptions that all employees would increase their contributions by the full amount instantaneously is unrealistic (id.).

(B) Petitioners

Regarding the 401(k) expense, the Petitioners assert that Colonial has increased its matching contribution in 1998 over the 1997 levels by approximately \$63,000 even though the higher matching level was available since April 1998, which is only a portion of a year (Petitioners Reply Brief at 28). Therefore, the Petitioners claim that their proposed adjustment of \$77,834 is conservative and a reasonable estimate of 401(k) costs and should be accepted by the Department (id. at 27-28).

iii. Analysis and Findings

The record shows that there was a change in April 1998 when the matching contribution was increased from 6.0 percent to 7.0 percent (Exh. DTE 4-3 (Rev.) at 7-1). The Department expects that such a change is likely to increase the 401(k) expense for Colonial. The adjustment of \$77,834 proposed by the Petitioners assumes no change in the level of participation and represents the increase in 401(k) expense obtained by multiplying the 1997 401(k) expense by 7/6 to account for the increase in matching level from 6.0 percent to 7.0 percent (See Exh. DTE-2-11 (Rev.) at 7). The record shows that Colonial's matching contribution increased by about \$63,000 over the eight month period immediately after the change from 6.0 percent to 7.0 percent in the matching level went into effect. Based on increased costs of about \$63,000 for eight months, one would expect an annual increase in 401(k) expense of about \$94,500 (\$63,000 X 12/8). The adjustment proposed by the Petitioners of \$77,834 to the annual revenue requirements is less than the \$94,500. Thus, the Petitioners have demonstrated that the 1998 expenses were greater than 1997 expenses by more than would be expected due to the 1.0 percent matching contribution change with no change in participation levels. Therefore, the Department finds that the adjustment for 401(k) expenses that assumes no change in participation levels, as proposed by the Petitioners is conservative and reasonable. As the Petitioners have demonstrated that a higher 401(k) expense is more indicative of the future expenses, the Department accepts the adjustment to 401(k) reflecting the increase in the matching contribution level from 6.0 percent to 7.0 percent as a reasonable estimate for the purpose of determining Colonial's 401(k) expense, absent the merger.

c. 401(k) and Compensation Plan Adjustments

i. Introduction

During 1997, Colonial booked \$288,926 and \$311,511 in 401(k) expenses for the Cape Cod and Lowell Divisions respectively (Exh. DTE 4-3 (Rev.) at 7-1). Because Colonial increased its matching contribution from 6.0 percent to 7.0 percent in April 1998, Colonial increased its 401(k) expenses by the percentage increase (i.e., 1/6), and multiplied by the composite payroll rate of 77.78 percent to calculate adjustments of

\$37,453 and \$40,381 for the Cape Cod and Lowell divisions, respectively (Exh. DTE 4-3, at 7-1).⁽²⁷⁾

During 1997, Colonial booked \$505,000 in incentive compensation plan expenses to its cost of service apportioning 48 percent to the Cape Cod division and 52 percent to the Lowell division (id. at DTE 4-3 (Rev.) at 14). In 1998, Colonial paid \$1,647,906 in incentive compensation to eligible employees and again apportioned 48 percent to Cape Cod and 52 percent to Lowell, resulting in adjustments of \$548,595 to Cape Cod and \$594,311 to Lowell (id.; Exh. DTE 8-11).

ii. Positions of the Parties

(A) Attorney General

The Attorney General claims that the Petitioners have failed to eliminate the capital portion of the 401(k) costs for matching employee investments costs and the incentive compensation plan costs (Attorney General Brief at 22). Therefore, the Attorney General argues that these adjustments should be reduced to 77.8 percent of the proposed amounts to reflect only the operation and maintenance ("O&M") expense portion (id. at 22-23).

(B) Petitioners

According to the Petitioners, the Attorney General's arguments are incorrect and no further adjustments are necessary. First, the Petitioners claim that the 401(k) matching contribution expenses have been reduced to 77.8 percent of the total amount (Petitioners Reply Brief at 25, citing Exh. DTE 4-3 (Rev.) at 7). Second, the Petitioners assert that only non-union employees are eligible for the incentive compensation plan, so that the overall capitalization rate would overstate the portion of the compensation plan that should be capitalized (id., citing Tr. 2, at 222-224).

iii. Analysis and Findings

Regarding the adjustment for 401(k) expenses, the record indicates that only the O&M expenses portion of these costs are included in the cost of service (Exh. DTE 4-3 (Rev.) at 7). Therefore, the Attorney General's recommendation to limit the 401(k) expenses has been addressed.

With respect to the adjustment for the incentive compensation plan expenses, the Petitioners failed to include only the O&M expense portion of compensation plan costs in the cost of service estimate. The Petitioners claim that using the 77.8 percent O&M expense portion would overstate the capitalization rate because only non-union employees are entitled to the incentive compensation plan. However, the Petitioners do not offer an alternative other than stating that no adjustment is warranted. The Petitioners calculated 77.78 percent as the percentage of employee-related costs to be allocated to O&M (Exh. DTE 4-3, at 36) and the Department accepts this calculation. Absent a calculation that better accounts for the different mix of employees eligible for the

compensation plan benefit versus other benefits, the Department considers the compensation plan to be no different than other employee compensation (e.g., wages, post-retirement benefits other than pensions ("PBOP"), healthcare). Therefore, the adjustment for compensation plan costs shall be multiplied by the O&M expense portion of 77.78 percent. This calculation reduces Cape Cod's compensation plan expense by \$121,898 ($\$548,595 \times (1-.7778)$) and Lowell's compensation expense by \$132,056 ($\$594,311 \times (1-.7778)$).

In summary, the Department finds that no change to the 401(k) expense adjustment is necessary, but the compensation plan expense adjustment shall be reduced by \$253,954 across both divisions as a reasonable estimate for the purpose of determining Colonial's 401(k) expense and compensation plan expense adjustments, absent the merger.

d. Reduction in Employee Levels

i. Introduction

The Petitioners' wage adjustment begins with a 1998 adjusted wage base of \$13,300,365⁽²⁸⁾ across both divisions (Exh. DTE-4-3 (Rev.) at 18-20). This amount includes the projected savings from the new computer and customer service systems (*id.* at 18).

ii. Positions of the Parties

(A) Attorney General

The Attorney General argues that the cost of service should be reduced by 9.9 percent, which represents the reduction of Colonial's workforce in 1998 (Attorney General Brief at 23-24).⁽²⁹⁾

(B) Petitioners

The Petitioners state that the decrease in the number of employees from 490 to 446 was based on Colonial's decision not to fill job vacancies in 1998 because of the pending merger (Petitioners Reply Brief at 26; Tr. 9, at 1215). The Petitioners also point to the efficiencies created by the new customer and CAD system which reduced staffing requirements by 12 to 15 people (Petitioners Reply Brief at 26; Tr. 9, at 1215). The Petitioners state that the savings from the customer and CAD system have already been included in O&M expenses (Petitioners Reply Brief at 26).

The Petitioners argue that by not replacing departing employees, the number of employees and associated wages at the end of 1998 are not representative of Colonial's stand-alone costs (*id.*). Furthermore, the Petitioners contend that the level of employees at year-end 1997, less the employee reductions produced by the installation of the new information systems in 1998, represents a reasonable estimate of the wages that Colonial

would pay on a stand-alone basis in 2000 and later (id.). Therefore, the Petitioners recommend that the Attorney General's adjustment be rejected (id.).

iii. Analysis and Findings

The record establishes that the reduction in the number of employees beyond that caused by the new information systems occurred because of Colonial's decision not to hire replacements for departing employees. The Department is persuaded by the Petitioners' argument that the number of employees at the end of 1997, less the reduction due to the customer and CAD system, represents a reasonable estimate of the employees that Colonial would have on a stand-alone basis in the year 2000 and beyond. Therefore, the Department accepts the employee level included by the Petitioners as a reasonable estimate for the purpose of determining Colonial's wage expense, absent the merger. ⁽³⁰⁾

e. Wage Increases Beyond Midpoint of Rate Year

i. Introduction

To calculate the wages included in the cast-off revenue requirement beginning November 1, 2000, the Petitioners increased the 1998 adjusted wage base by 3.0 percent per year from 1998 through 2001 (Exh. DTE 4-3 (Rev.) at 18-20).

ii. Positions of the Parties

(A) Attorney General

The Attorney General requests that the Department reject any wage increases in the cost of service after the midpoint of the year 2000 (Attorney General Brief at 24). Specifically, the Attorney General asserts that the Department should employ its "standard ratemaking methodologies" to determine the cost of service for wages, and increase these costs only through the midpoint of year 2000, which he asserts is the appropriate "rate year" in this case (id.).

(B) Petitioners

The Petitioners assert that the Department routinely allows the inclusion of wage increases that are scheduled to become effective within six months after rates are set (Petitioners Reply Brief at 27, citing Western Massachusetts Electric Company, D.P.U. 86-280-A at 74 (1987), and Fitchburg Gas and Electric Light Company, D.P.U. 1270/1414, at 14 (1983)). Thus, the Petitioners argue that if Colonial were setting new rates to be effective November 2000, it would be entitled to include wage increases through May 1, 2001, in its cost of service (id.).

iii. Analysis and Findings

With respect to the 3.0 percent wage increase, there is record evidence that Colonial has granted at least that level of increase to its employees since 1997 (Tr. 4, at 623-624). Moreover, the record demonstrates that the level of the proposed wage increase for the non-union employees closely corresponds to the wage increase that would be awarded to union employees (id. at 623). The Petitioners did not provide the comparative analyses of salaries and wages that are normally required under the Department's rate case standards. Another, admittedly less precise, way to gauge the reasonableness of wage increase estimates is to compare the estimates to the expected rate of inflation. For wage increases to keep pace with the cost of living, they must be at least as high as the rate of inflation; otherwise, there would be a real wage decrease. It is reasonable to assume that a company, required to maintain service quality and therefore to retain quality employees, will see that its employees receive at least a cost-of-living wage increase. The inflation rate estimates presented in this case range from 2.15 percent to 3.2 percent for the relevant time period (Exhs. DTE 4-3, at 11-A; JFB-2, at 3). Because the 3.0 percent wage increase is roughly in line with the inflation rate estimates, the increase is well within the range of reasonableness. Therefore, the Department finds this level of wage increase to be a reasonable estimate for the purpose of determining Colonial's wage expense, absent the merger.

With respect to the appropriate length of time to include the wage increase, the Department has allowed the inclusion of a reasonable payroll increase if the proposed increase is to take effect before the midpoint of the rate year. See Massachusetts Electric Company, D.P.U. 95-40, at 20 (1995); Massachusetts Electric Company, D.P.U. 92-78, at 19-20 (1995), Commonwealth Gas Company, D.P.U. 87-122, at 54-55 (1987); Bay State Gas Company, D.P.U. 1122, at 26 (1982). In this case, the Petitioners state that Colonial, if operating on a stand-alone basis, would file a rate case for new rates to be effective in November 2000 (Exh. NS-1, at 8-9; Petitioners Reply Brief at 27). Therefore, if this were a rate case proceeding, Colonial would be entitled to include wage increases for the entire "rate year" if the wage increases were deemed reasonable by the Department.

However, the Department notes that this is not a rate case proceeding where base rates are being established. In this proceeding, the Department is determining the reasonableness of Colonial's costs, absent the merger. See, again, footnote 19, supra. Consistent with that objective, the Department will allow the inclusion in the cast-off revenue requirement of only those costs that Colonial as a stand-alone company would be likely to incur. According to the Petitioners' proposed tracking mechanism, any cost increases such as those for wage increases, after June 30, 2000, will be captured by the application of the GDP-PI to the cast-off revenue requirements (Exh. JFB-2 (Rev. 2), at 3). Therefore, the Department finds that the cast-off revenue requirements should include wage increases effective January 1, 1998 and January 1, 1999. For the year 2000, the Department will allow the Petitioners to include in its calculation of the cast-off revenue requirement, wage increases for only the period from January 1, 2000 to June 30, 2000. The wage increases for the remaining portion of 2000 and the wage increases for 2001

shall be excluded because those wage increases would be captured by the application of the GDP-PI to the cast-off revenue requirement.

f. Depreciation

i. Introduction

The Petitioners propose depreciation expense adjustments of \$510,252 and \$496,618 for the Cape Cod and Lowell divisions, respectively (Exh. DTE-4-3 (Rev.) at 21).

ii. Positions of the Parties

(A) Attorney General

According to the Attorney General, the Petitioners have incorrectly calculated Colonial's pro forma depreciation expense (Attorney General Brief at 21). Instead of multiplying the test-year end balance of depreciable plant by a composite depreciation rate, the Attorney General contends that the Petitioners should have multiplied the test-year end balances of depreciable plant by the accrual rate that the Department approved for each account (id., citing Exh. DTE-4-3 (Rev.) at 21). This approach would result in depreciation expense adjustments of \$78,094 for Cape Cod and \$253,728 for Lowell or a combined decrease of \$675,048 to the cost of service (id. at Sch. 10A, 10B).

(B) Petitioners

The Petitioners agree with the Attorney General that the test-year end balances of depreciable plant be multiplied by the accrual rate for each account (Petitioners Reply Brief at 23). However, the Petitioners assert that the Attorney General's actual calculation contains errors and understates the depreciation expense by more than \$900,000 (id.). Based on the Attorney General's method for computing the depreciation expense, the Petitioners calculate pro forma depreciation expense adjustments of \$491,693 for Cape Cod and \$517,740 for Lowell (id. at 24).

iii. Analysis and Findings

The Petitioners agree with the Attorney General's method, but not the outcome of the calculation. The Department finds that the Attorney General's method for calculating depreciation expense is correct. While the Department accepts the Attorney General's method, errors in his calculation require correction. The Petitioners calculated the depreciation expense using the Attorney General's method, and the correct account balances and accrual rates (Exh. DTE-4-3 (Rev.) at 21; Petitioners Reply Brief at Sch. 10A, 10B). The Department accepts the Petitioners' recalculations as a reasonable estimate for the purpose of determining Colonial's depreciation expense, absent the merger. Accordingly, the depreciation expense adjustment shall be increased by \$916,434.

g. Amortization of Materials and Supplies Inventories

i. Introduction

During 1997, Colonial booked \$285,000 in operating reserves for obsolete inventory (Tr. 9, at 1213).

ii. Positions of the Parties

(A) Attorney General

According to the Attorney General, the operating reserves were created for some estimated amount of a future cost that may or may not be realized (Attorney General Brief at 21). The Attorney General asserts that this type of accounting is inappropriate in ratemaking since the item is not known or measurable (id.). Therefore, the Attorney General recommends removing the item from the cost of service (id.).

(B) Petitioners

The Petitioners acknowledge that the amount booked as a reserve for obsolete inventory is not representative of the recurring level of expense (Petitioners Reply Brief at 24). Since the amount was intended to be a five-year reserve, the Petitioners indicate that \$57,000 should remain as the recurring level and the operating reserve should be reduced by \$228,000 (\$285,000-\$57,000) (id.).

iii. Analysis and Findings

The record indicates that the \$285,000 amount booked for obsolete inventory was intended to be a five-year reserve (Tr. 9, at 1213-1214). As the Petitioners conceded, the reserve is not a recurring expense and thus should be amortized over a period of time in order to measure the annual impact. The Petitioners proposed to amortize this expense over five years to match the period within which it was intended to be a reserve, which proposal would reduce the booked amount from \$285,000 to \$57,000. Because the amortization period matches the intended reserve period, the Department finds that the Petitioners accounted correctly for this item. Therefore, the Department accepts the Petitioners' corrected operating reserve amount and finds that it is a reasonable estimate for the purpose of determining Colonial's operating reserves, absent the merger. Accordingly, the operating reserve shall be booked as \$57,000.

h. Post-Retirement Benefits Other than Pensions

i. Introduction

Colonial recorded an accrual of \$241,935 on its books as of December 31, 1998 for PBOP (Exh. AG 1-36, at Att. 4).

ii. Positions of the Parties

(A) Attorney General

According to the Attorney General, during 1997, Colonial accrued \$410,000 in PBOP costs and included this amount in its cast-off revenue requirement (Exh. AG-18, 1998 10-K at 39). The Attorney General recommends that the Department eliminate the expense portion of the accrual amounting to \$318,898⁽³¹⁾ from the calculation of the cast-off revenue requirement (Attorney General Brief at 25). According to the Attorney General, tax-deductible cash contributions, and not actuarially determined amounts, are the reasonable basis for determining PBOP expenses for ratemaking purposes (*id.* at 26, *citing* D.P.U. 96-50, at 86). Since Colonial contributed nothing to the PBOP trust fund during 1998, the Attorney General maintains that no accrual should be allowed (*id.* at 26).

(B) Petitioners

The Petitioners claim that, contrary to the Attorney General's assertions, Colonial has funded its PBOP since 1990 (Petitioners Reply Brief at 28). The Petitioners also argue that the Attorney General's recommended adjustment is based incorrectly on total PBOP costs for Colonial and Transgas (*id.* at 29, *citing* Exh. AG-1-5 (Rev.) at 37). Therefore, the Petitioners claim that the Attorney General's adjustment should be rejected (Petitioners Reply Brief at 29).

iii. Analysis and Findings

The Department concludes from the evidence presented, that Colonial accrued \$241,935 in PBOP costs in 1998 (Exh. AG 1-36, at Att. 4). However, the Petitioners failed to include only the O&M expense portion of the PBOP costs. Therefore, the Department finds that the adjustment for the PBOP costs shall be multiplied by the O&M expense portion of 77.78 percent, which reduces Colonial's PBOP expense by \$53,758. Accordingly, the PBOP expense shall be \$188,177 for the purpose of determining Colonial's PBOP expense, absent the merger.

i. Uncollectible Expenses

i. Introduction

The Petitioners calculated Colonial's uncollectible expense by comparing net write-offs in the years 1995 through 1997 to firm billed revenues in the same years (Exh. DTE 4-3, at 9). The resulting uncollectible ratios of 0.63 percent and 0.93 percent for the Cape Cod and Lowell divisions, respectively, were applied to total adjusted revenues for each division (*id.*). Comparing the "allowable uncollectible expenses" of \$512,009 and \$1,050,395 for the Cape Cod and Lowell divisions, respectively, to each division's 1997 uncollectible expenses, resulted in uncollectible expense adjustments of \$9,770 and (\$363,020) for the Cape Cod and Lowell divisions, respectively.

ii. Positions of the Parties

The Attorney General asserts that the Department should base the uncollectible expense on the allowed cast-off revenues (Attorney General Brief at 26). The Petitioners agree that this expense should be adjusted to reflect the cast-off revenues allowed by the Department (Petitioners Reply Brief at 29).

iii. Analysis and Findings

The Department previously has calculated uncollectible expense based on allowed revenues. D.P.U. 96-50, at 71; Berkshire Gas Company, D.P.U. 90-121, at 97 (1990). Here, the Department finds again that the proper way to calculate the uncollectible expense adjustment is to base it on the cast-off revenues allowed, for the purpose of determining Colonial's uncollectible expense, absent the merger. Therefore, the uncollectible expense shall be calculated by multiplying the ratios noted above for each division, by the total allowed revenues for each division.⁽³²⁾

j. Charitable Contributions

i. Introduction

During 1997, Colonial booked \$25,100 and \$25,750 in charitable contributions to the Cape Cod and Lowell divisions, respectively (Exh. DTE 4-3 (Rev.) at 10). Colonial eliminated the entire booked amount from the Cape Cod division, and eliminated \$750 from the Lowell division's cost of service. The Petitioners propose to maintain the remaining \$25,000 of charitable contributions booked to the Lowell division, since the funds were used to assist the Lowell Plan, which is a non-profit private economic development corporation (Exh. DTE 8-8, Att. at 15). The Attorney General did not address this issue.

ii. Analysis and Findings

In traditional rate cases, the Department excludes charitable contributions from cost of service, absent evidence that such an expenditure is reasonable and provides a clear benefit to ratepayers. Commonwealth Electric Company, D.P.U. 89-114, at 135, citing Boston Gas Company v. Dept. of Public Utilities, 405 Mass. 115 (1989); Boston Gas Company, D.P.U. 88-67 (Phase I) at 126 (1988). Using our rate case precedent as a guide, the Department notes that whether the cost is an actual or a projected amount, there must be a demonstration that the contribution provides a clear benefit to ratepayers as ratepayers, not in their capacity as residents in the service territory of the company claiming the expense. The Petitioners have failed to provide sufficient evidence to make such a demonstration. Therefore, charitable contributions shall be reduced by \$25,000 for the Lowell division for the purpose of determining Colonial's costs, absent the merger.

k. Utiligent

i. Introduction

Colonial's current customer service system, which covers customer billing and invoicing functions, is maintained, operated and receives system programming support from Utiligent, LLC, a division of Andersen Consulting ("Utiligent") (Tr. 5, at 778; Tr. 6, at 850). This Utiligent software was purchased in 1998 for \$11,745,241 to replace the previous billing system. Pursuant to a ten-year contract, Utiligent provides maintenance, operations and system programming support for the billing functions (Exh. DTE 4-3 (Rev.) at 29-30; Tr. 4, at 622). The Petitioners state that Utiligent (1) enhances customer billing services; (2) is Y2K compliant (whereas the previous system was not); (3) reduces operating and management expenses by approximately \$1.1 million; and (4) eliminates maintenance, operations and system programming support of the previous system (Exh. DTE 8-25; RR-AG-23, at 1, 4, 6, 9; Tr. 2, at 275; Tr. 5, at 778-782). The Petitioners proposed to include \$1,629,896, consisting of \$825,044 and \$804,852 for the Cape Cod and the Lowell divisions, respectively, to account for Utiligent fees⁽³³⁾ in the determination of a cast-off revenue requirement for Colonial, absent the merger (Exh. DTE 4-3 (Rev.) at 16).

Because of the merger, the Petitioners opted to convert the customer service system functions from Utiligent to a Boston Gas customer service system ("CSS"). The Petitioners contend that the conversion to CSS will result in annual cost savings of approximately \$1.4 million, or \$14.0 million in total savings over the term of the rate freeze (Tr. 7, at 955-56, 969-970). However, the Petitioners stated that as a consequence of their decision to terminate the Utiligent contract with Andersen Consulting, Colonial will incur a one-time \$4.1 million penalty (Tr. 6, at 851). The Petitioners proposed to include the \$4.1 million penalty as a component of the system integration costs associated with the merger, which are to be amortized over ten years (Exh. JFB-7 (Rev.)).

ii. Positions of the Parties

(A) Attorney General

The Attorney General argues that the costs relating to Utiligent should be removed from the calculation of the cast-off revenue requirement since the costs incurred exceed the savings derived (Attorney General Brief at 27). Moreover, the Attorney General contends that Colonial could perform these functions internally at a lower cost and is therefore not providing the least cost service to its ratepayers (*id.*). The Attorney General argues that, while the Petitioners' pro-forma adjustments for Utiligent result in a total annual cost of \$1,629,896, Colonial expects \$907,000 in annual total savings thereby yielding a \$722,896 deficit (*id.*). Further, the Attorney General argues that, based on the rate per bill arrangement that Colonial has with Utiligent, as the number of customers increase, the annual cost of billing will also increase proportionally. Therefore, the Attorney General contends that all future economies of scale will be forfeited (*id.*). Finally, the Attorney General argues that the costs associated with terminating the contract on Utiligent should not be included in the merger-related costs (*id.* at 28 n.20).

(B) Petitioners

The Petitioners state that Colonial's investment in Utiligent was necessary to replace the previous system to accommodate (1) Y2K compliance needs; (2) billing activities resulting from the anticipated unbundled service market; and (3) the needs of its expanding customer base (Petitioners Reply Brief at 31). Further, the Petitioners state that, in the absence of the merger, Colonial would have operated its Utiligent system in accordance with the terms of its arrangement with Andersen Consulting. (*id.* at 32). Therefore, the Petitioners argue that the costs of maintaining and operating the Utiligent system are appropriately included in the stand-alone analysis (*id.* at 32).

With regard to the decision to replace the Utiligent system with the Boston Gas CSS, the Petitioners state that they performed analyses using functional, technical, and cost data (Tr. 7, at 968). From a functional perspective, the Petitioners state that O&M synergies would be attained as a result of having to maintain only one system (*id.* at 970-971). From a technical perspective, the Petitioners state that the Utiligent system used by Colonial is no longer marketed by Andersen Consulting, because its programming language is obsolete (*id.* at 965). From a cost perspective, the Petitioners argue that although a one-time early termination penalty of \$4.1 million will be incurred, Colonial will avoid costs totaling approximately \$1.4 million per year (or \$14.0 million over the term of the rate freeze) (*id.* at 970).

iii. Analysis and Findings

The Department must determine (1) whether the proposed adjustments included in the calculation of the cast-off revenue requirement to cost of service totaling \$1,629,896 are reasonable, and (2) whether, as a result of the proposed merger, Colonial's transition from Utiligent to Boston Gas' CSS is reasonable.

While the Attorney General does not oppose Colonial converting to Boston Gas' CSS, he does object to including Utiligent fees in the calculation of the cast-off revenue requirement. The record indicates that Colonial converted from the previous billing system to Utiligent for two reasons. First, customer service system expenses were reduced by approximately \$1.1 million per year. Second, the Utiligent system was Y2K compliant and was designed to accommodate a comprehensive customer-choice system for an unbundled environment (Exhs. DTE 5-8; DTE 5-9; Tr. 4, at 622). It is reasonable to conclude that Colonial would have continued to use the Utiligent system if it remained a stand-alone company. Therefore, the Department accepts \$1,629,896 as a reasonable estimate for the purpose of determining Colonial's Utiligent expense, absent the merger.

Regarding Colonial's decision to convert from Utiligent to Boston Gas' CSS, the record demonstrates that Colonial's costs to use Boston Gas' CSS would be approximately \$9.9 million⁽³⁴⁾ less than the costs of the Utiligent system over ten years. The \$9.9 million in savings is significantly greater than Colonial's one-time payout of \$4.1 million to terminate its contract with Andersen Consulting. Moreover, Colonial's ability to consolidate its O&M expenses is a significant cost benefit that would be realized as a

result of Colonial's transition to its new CSS. Further, the record demonstrates that Colonial's new CSS is (1) Y2K compliant; and (2) allows for Colonial's customer support functions. Based on the foregoing, the Department finds that the Petitioner's proposal to end Colonial's customer service system arrangement with Utiligent and, in its place, use Boston Gas' CSS is reasonable. The incurrence of a contract penalty is a rational economic decision in view of the merger and of the savings to be achieved by synergistic reliance on Boston Gas' CSS.

I. Capital Structure and Cost of Capital

i. Capital Structure

(A) Introduction

Colonial's proposed capital structure consists of \$120,000,000 in debt and \$129,733,776 in common equity (Exh. DTE-4-3 (Rev.) at 4). These figures include expected increases in long-term debt of \$10,000,000 and common equity of \$12,771,215 through June 2000 (Exh. DTE 4-3 (Rev.) at 4, 4a, 4b).

The proposed capital structure excludes the value of Colonial's investment in Transgas amounting to \$13,169,494, which consists of a net book value of \$5,169,494 and an acquisition premium of \$8.0 million (Exh. AG-18, Colonial's 1998 10-K at 10; DTE 2-13, at 2; JFB -1, at 18).

(B) Positions of the Parties

(1) Attorney General

The Attorney General recommends two reductions to Colonial's capital structure: (1) Colonial's equity investment in Transgas; and (2) post-1997 additions to the common equity balance (Attorney General Brief at 18).

First, the Attorney General argues that the Petitioners improperly adjusted the year-end 1997 balance of Colonial's common equity in Transgas (id.). The Attorney General points out that Colonial's test-year end balance of consolidated common equity of \$122,132,055, was reduced by only \$5,169,494 for Colonial's equity investment in Transgas (id., citing Exh. DTE 4-3 (Rev.) at 4(b)). However, the Attorney General states that Colonial's investment in Transgas was \$13,169,494⁽³⁵⁾ at year-end 1997 (id.). Thus, the Attorney General requests that the Department reduce Colonial's year-end 1997 common equity balance by the full \$13,169,000 or an additional \$8.0 million (id.).

Second, the Attorney General contends that the Department should reject the Petitioners' proposal to increase Colonial's test-year end balance of common equity for estimated common stock issuances (Attorney General Brief at 18-19). The Attorney General argues that the level of common equity should be held constant as of year-end 1997 based on the argument that the proposed additions are not "known and measurable" (id. at 19). The

Attorney General contends that because both the value of and number of shares issued must be projected in order to forecast the value of common equity additions, no adjustments should be made for dividend reinvestment, optional cash purchases, employee payroll, and employee savings plans for the period year-end 1997 through June 2000 (id., citing Exh. DTE 4-3 (Rev.) at 4B). The Attorney General contends that the value of common stock may vary each trading day and, therefore, it would be a coincidence if this value was equal to the average forecast value of additions made during the period under consideration (id.).

(2) Petitioners

With respect to the investment in Transgas, the Petitioners contend that their proposal accurately lists Colonial's equity in Transgas at \$5,169,494 (Petitioners Reply Brief at 21, citing Exhs. DTE 4-3 at 4 (Rev.) at 4-1 through 4-6 (Lowell); AG 1-9; AG 1-13; AG 2-2; AG 1-57). The Petitioners argue that the 1997 annual return to the Department, relied on by the Attorney General in his calculation, incorrectly states an equity balance in Transgas of \$13,169,494 (id., citing Exh. AG 1-6, Att. 3, at 8). According to the Petitioners, the value of the equity should have been reduced by the \$8.0 million dividend that was declared and paid by Transgas in December 1996 (id., citing Tr. 1, at 53-54; Tr. 5, at 748).

With respect to additions made to common equity after 1997, the Petitioners contend that they have provided actual additions to Colonial's common equity for the period January 1998 through September 1998, totaling \$4,408,083 (id. at 21-22, citing Exh. DTE 4-3 (Rev.) at 4B (Lowell)). The Petitioners assert that this additional value of common equity is both known and measurable and is part of the record (id.). Furthermore, the Petitioners state that the projected additions are based on the period October 1997 through September 1998 and were used to project equity additions that would have occurred in the absence of the merger for the period September 1998 through June 2000 (id. at 22). The Petitioners maintain that use of these data is more realistic than use of post-September-1998 data since "an unusual number of shares may have been issued after September 1998 as a result of the pending merger" (id.).

(C) Analysis and Findings

Transgas' valuation must be determined in order to establish Colonial's stand-alone value. The valuation of Transgas is also needed to provide the basis for the allocation of merger related costs concerning Colonial's natural gas assets.

The Attorney General relied on the Company's annual report to the Department to determine that Colonial's equity in Transgas for the year-ended 1997 was \$13,169,494 (Attorney General Brief at 18). However, the record demonstrates that the annual report erroneously overstated the amount of Colonial's equity in Transgas as of December 31, 1997 (Tr. 1, at 53; Tr. 5, at 747-748). After payment of the dividend, the equity investment in Transgas was reduced from \$13,169,494 to \$5,169,494 and is consistent with the updated equity specified in the merger document (Exh. JFB-8). Therefore, the

Department finds that the Petitioners' proposal to reduce the 1997 year-end balance of the common equity by \$5,169,494 is factually accurate. ⁽³⁶⁾

With respect to the post-1997 additions to Colonial's common equity balance, we note that the trend toward a competitive environment will necessitate greater reliance on the business tools and procedures used by firms whose prices are unregulated. Unregulated firms rely on business forecasts to guide the conduct of their businesses into and through new areas and over time. The "known and measurable" precedent is useful in a stable, regulated environment. This standard has distinct limitations in a dynamic, competitive environment, where a company must base revenue and cost projections on its analysis of emerging issues and industrial trends. The record shows that \$4,408,083 of the total equity additions of \$12,771,215 is based on actual investment data for Colonial stock for the period January 1998 through September 1998 (Exh. DTE 4-3 (Rev.) at 4B). Since the \$4,408,083 of additions to common equity is based on actual information, the Department accepts this amount as a reasonable estimate for purpose of evaluating the merger's benefits to customers as compared with Colonial's projected additions to equity for Colonial as a stand-alone company.

The remaining amount of \$8,363,132 (\$12,771,215 - \$4,408,083) is forecast based on an actual share price level in effect at the time of the forecast preparation and a share increase volume based on a normal level of additions. This method for projecting additions to common equity yields a reasonable approximation of the additions to equity that Colonial would experience, absent the merger. The Attorney General is in essence assuming that there will be no additions to equity. His assumption is without basis and is inconsistent with past experience. The Department concludes that the forecast of the Petitioners is reasonable and is therefore acceptable for the purpose of estimating additions to common equity.

Accordingly, the Department finds that the addition of \$12,771,215 to Colonial's projected common equity is reasonable for the purpose of evaluating the merger's benefits to customers as compared with Colonial's projected additions to common equity as a stand-alone company.

ii. Cost of Equity

(A) Introduction

The Petitioners propose an ROE of 11.19 percent which is the same as the return used in the settlement of Colonial's last rate case, Colonial Gas Company, D.P.U. 93-78 (1993).

(B) Positions of the Parties

(1) Attorney General

The Attorney General argues that Colonial's ROE should be 11.0 percent instead (Attorney General Brief at 20). The Attorney General notes that the Petitioners' proposed

11.19 percent return, allowed as part of the Department-approved settlement in D.P.U. 93-78, was for the specific purpose of calculating funds used during construction and components of those costs included in the CGAC that might require the use of an ROE (id. at 20). Moreover, the Attorney General asserts that the cost of capital has decreased since 1993 and the Department should rely on its findings of an 11.0 percent ROE as contained in the Fitchburg Gas and Electric Light Company's rate case, D.T.E. 98-51 (1998) (id.).

(2) Petitioners

The Petitioners argue that the proposed return common equity does not differ materially from the return allowed by the Department in D.T.E. 98-51. Therefore, the Petitioners maintain that 11.19 percent should be considered reasonable and appropriate for purposes of estimating Colonial's stand-alone revenue requirement (Petitioners Brief at 22-23).

(C) Analysis and Findings

In a traditional rate case, a petitioner would have presented a witness to support its proposed ROE. No such detailed evidence was provided here. The Petitioners' proposed ROE was approved for Colonial five years ago as part of a settlement for the limited purposes of calculating the (1) allowance for funds used during construction, (2) carrying costs associated with unamortized demand side management expenditures, and (3) purchased gas working capital allowance, the remediation adjustment clause value, and any other components of the CGAC. D.P.U. 93-78, at 4. Estimating ROE requires the examination of existing market conditions for the current time period. For example, a discounted cash flow analysis takes into account projected dividend per share, divided by current market price per share on the common stock as well as the investors' expected long-run growth rate in dividends paid per share. D.T.E. 98-51, at 111. The ROE presented by the Petitioners does not consider current information. Absent any evidence from the Petitioners other than their assertion that an ROE approved six years ago is still appropriate, the Department must rely on a proxy for estimating Colonial's current ROE. The Department has no more current information regarding ROE than the Fitchburg Gas and Electric Light Company rate case that was issued in November 1998. There, the Department evaluated several methods of determining ROE using actual evidence of market conditions as of that time, less than nine months ago. Fitchburg Gas and Electric Light Company, D.T.E. 98-51, at 127 (1998). The Department approved an ROE for Fitchburg Gas and Electric Light Company of 11.0 percent, which was based on considerations of preserving the company's financial integrity, allowing it to attract capital on reasonable terms and comparing earnings on investment of similar risk. D.T.E. 98-51, at 127. Here, absent little more than the Petitioners' assertion that 11.19 percent is appropriate, we find that it is far more reasonable to use the more recently derived ROE of 11.0 percent as a proxy for Colonial's ROE in this case, given that it is the most recent ROE determination by the Department for a gas utility. Therefore, the Department will use 11.0 percent for the purpose of determining Colonial's allowed ROE, absent the merger.

m. Conclusion

The Petitioners are directed to provide a compliance filing within 20 days of the date of this Order that includes a recalculation of the cast-off revenue requirement incorporating the Department's findings as described above.

3. Exogenous Costs and Inflation

a. Introduction

The Petitioners request that Colonial be provided the opportunity to recover exogenous costs that individually exceed \$140,000⁽³⁷⁾ (Tr. 7, at 926-931, 988-989). The Petitioners further request that any change in the Department's regulatory policy regarding LBR be deemed an exogenous cost for which recovery is permissible through the CGAC⁽³⁸⁾ until the next base rate proceeding (Exh. JFB-1, at 9; Tr. 7, at 923).

Finally, the Petitioners request that they be permitted to petition for a modification of base rates, if inflation, as measured by the GDP-PI, were to increase by more than 5.0 percent in a twelve month period (Exh. JFB-1, at 7). The Petitioners state that such adjustment would not occur automatically. Rather, an adjustment to rates resulting from inflationary increases would require (1) proof that inflation did increase over the established period of time, and (2) subsequent approval by the Department (Petitioners Brief at 12). The Attorney General did not address these issues.

b. Analysis and Findings

The Department has defined exogenous costs as positive or negative cost changes beyond a company's control that would significantly affect the company's operations. NIPSCO-Bay State Acquisition at 17, Eastern-Essex Acquisition at 19. With the exception of including any change in the Department's LBR policy in the definition of an exogenous cost, the Petitioners' proposed list of exogenous factors is similar to those set forth and accepted by the Department in NIPSCO-Bay State Acquisition, Eastern-Essex Acquisition, and D.P.U. 96-50.

As noted, the Petitioners have proposed to add, as an exogenous cost, any change in the Department's LBR policy. We recognize that a change in the Department's regulatory policy, including our LBR policy, that had cost consequences, would be encompassed under our definition of an "exogenous cost." To recover exogenous costs during the Rate Plan, the Petitioners would be required to propose exogenous cost adjustments, with supporting documentation and rationale, to the Department for determination as to the appropriateness of recovery of the proposed exogenous costs. NIPSCO-Bay State Acquisition at 17-18. The Petitioners would need to adhere to this directive should they wish to recover, as an exogenous cost, any change in the Department's LBR policy.

Concerning the \$140,000 threshold, the Department has stated that there should be a threshold for qualification as an exogenous cost in order to avoid costly regulatory

process over minimal dollars. NIPSCO-Bay State Acquisition at 18; D.P.U. 96-50, at 288. Therefore, the Department has required that any individual exogenous cost must exceed a threshold in order to qualify for recovery. NIPSCO-Bay State Acquisition at 18; D.P.U. 96-50, at 288. The last time that the Department considered a threshold for the opportunity to recover exogenous costs was in NIPSCO-Bay State Acquisition at 18. There, the Department found that the effect of any individual exogenous cost must exceed \$500,000 in a particular year in order for the Petitioners to request recovery. In the instant matter, the Department must determine whether departing from NIPSCO-Bay State Acquisition and setting a \$140,000 threshold is reasonable. To make this determination, the Department has compared Bay State's and Colonial's operating expenses in 1998. The Department notes that Colonial's 1998 operating revenues were approximately half those of Bay State's (Exh. AG-2).⁽³⁹⁾ Based on this calculation, the Department finds a principle of proportionality relating to Colonial's operating revenues is called for and so proportions the threshold set for Colonial to that set for Bay State. The Department determines that a threshold amount half that required by the Department in NIPSCO-Bay State is reasonable. Thus, the Department finds that the effect of any individual exogenous cost must exceed \$250,000 in a particular year in order for the Petitioners to request recovery of that particular exogenous cost increase.

With respect to inflation, the Department has stated that we will not pre-determine whether an increase in the inflation rate in any twelve month period warrants terminating the rate freeze. NIPSCO-Bay State at 18. Extraordinary economic circumstances have always been a recognized basis for any gas or electric company to petition the Department for changes to tariffed rates. Id. Similarly, the Department may make such changes if extraordinary economic circumstances, such as significant cost deflation, provide the company with a windfall.⁽⁴⁰⁾ Therefore, the Department sees no need to approve the Petitioner's proposal allowing it to terminate the rate freeze in the event of an increase in the rate of inflation of 5.0 percent or more in any twelve month period. For a rate freeze to be a meaningful benefit to ratepayers and thereby to offset identified costs of a merger or acquisition, the rate freeze cannot be so heavily encumbered with qualifications and potential "outs." Id. Again, if serious adverse circumstances were presented during a valid rate freeze, the Department would not be indifferent to reasonable adjustments, properly supported. The General Laws already offer sufficient protections.

4. Price Cap Formula for Tracking Mechanism

a. Introduction The Petitioners designed a tracking mechanism to determine the savings to Colonial ratepayers that would result from the ten year rate freeze (Exh. JFB-2, at 3). The tracking mechanism models the hypothetical costs of Colonial by applying an escalator annually to Colonial's "cast-off revenue requirement" (Exh. JFB-1, at 3). The escalator is equal to an inflation factor (the projected GDP-PI, as obtained from WEFA) adjusted by a productivity offset of one percent (Exh. JFB-1, at 3,27-28; Tr.6, at 894), as depicted in the following formula:

$$\text{GDP-PI} - \text{PO} = \text{E}$$

where,

GDP-PI = Gross National Product Price Index

PO = Productivity Offset

E = Escalator Applied to "Cast-Off Revenue Requirement"

The Petitioners then multiplied the "cast-off revenue requirement" by the escalator to calculate the likely annual revenue requirement of Colonial over each of the ten years of the rate freeze (Exh. JFB-2, at 3). The Petitioners state that they project \$127.6 million in savings to Colonial ratepayers over the ten years of the rate freeze (id.).

b. Positions of the Parties

i. Attorney General

The Attorney General contends that the savings to Colonial as measured by the Petitioners' tracking mechanism are without support (Attorney General Brief at 13). The Attorney General maintains that the 1.0 percent productivity offset used by the Petitioners understates productivity gains and "accumulated inefficiencies" and is too conservative (Exh. AG-2, at 46).

The Attorney General commissioned Seabron Adamson of London Economics Inc. and Dr. Raymond Hartman of Cambridge Economics Inc. to perform a productivity study of LDCs in the gas industry (Exhs. AG-1; AG-2; AG-3). Mr. Adamson and Dr. Hartman analyzed three components of the productivity offset: (1) the productivity growth index; (2) the consumer dividend factor; and (3) the accumulated inefficiencies factor (Exh. AG-1, at 2-3). The productivity growth index reflects the rate of productivity growth of the industry under "cost-of-service" regulation (id. at 2). The consumer dividend was defined as the likely gain in productivity that results from the adoption of PBRs (id.). Finally, the accumulated inefficiencies factor was defined as the difference between a firm's actual efficiency level and the "most efficient" firms in the industry (id. at 3).

The Attorney General's productivity study was composed of three separate studies. The first research study was a Data Envelopment Analysis ("DEA") to determine Colonial's overall level of efficiency versus an efficient "frontier"⁽⁴¹⁾ of peers (Exh. AG-2, at 23). This DEA study suggested that Colonial was only 80 percent as efficient as the most efficient, "best practice" peers (id.). The analysis employed a national sample of LDCs, and concluded that Colonial Gas has an accumulated inefficiency of 20 percent (id. at 44).

The second study was a Malmquist DEA analysis of the total factor productivity of the industry (id. at 31).⁽⁴²⁾ The Malmquist DEA analysis of total productivity change suggested that Colonial's productivity declined by 1.7 percent from 1995 to 1997 (id.

at 45). The sample also experienced a productivity loss of 0.3 percent during this period (id.).

Finally, a Tornqvist analysis⁽⁴³⁾ was performed to determine total productivity⁽⁴⁴⁾ and it revealed that Colonial's productivity declined 2.2 percent (versus a decline of 1.7 percent in the sample overall) from 1989 through 1997 (Exh. AG-1, at 41, 45).

From the results of the three studies, the Attorney General arrives at a recommended productivity offset of 3.2 percent for Colonial Gas. The Attorney General states that 2.2 percent of the offset should be "set-aside" as a correction for prior regulatory inefficiencies and that one percent of the recommended offset be considered as the consumer dividend (Exh. AG-2, at 46). The Attorney General also indicated that the DRI/McGraw-Hill forecast of GDP-PI was a more accurate representation of inflation than was the WEFA Index employed by the Petitioners (id. at 47).

Using the results of the productivity study, the Attorney General contends that the \$127.6 million "savings" imputed to accrue to Colonial's customers (Exh. JFB-2, at 3) are overstated since the Petitioners calculated the savings based on the use of a 1.0 percent productivity offset (Attorney General Brief at 30). According to the Attorney General, when the 3.2 percent factor is employed, customers actually benefit by \$41 million by being served by Colonial as a stand-alone company (id.).

ii. Petitioners

The Petitioners assert that the Department should reject the productivity offset presented by the Attorney General and employ a productivity offset of 1.0 percent (Petitioners Brief at 35-36). The Petitioners argue that the productivity offset established in Boston Gas (which underlies their proposal) took into account the total factor productivity and input-price growth rates for a sample of LDCs in the Northeast Region of the country (id.).

The Petitioners also contend that the tracking mechanism that they have designed to calculate benefits to Colonial customers does not influence rates during the first ten years of the rate freeze and point out further that the Petitioners' plan is not a price cap proposal to determine rates (id. at 35). Consequently, they assert that the Attorney General's analysis of productivity is irrelevant to the present case (id.).

Moreover, the Petitioners assert that the Attorney General's productivity research study is flawed in several respects. First, the Petitioners argue that the method employed in the Attorney General's analysis of productivity in which New England companies are compared to a national sample of companies was previously rejected by the Department (id. at 36, citing D.P.U. 96-50, at 275-276). Second, the Petitioners have criticized the findings of the Adamson and Hartman study, since in the case of the DEA "envelope analysis" only one year of data was used and in the case of the Malmquist and Tornqvist analyses, only three output variables were used (total gas delivered to residential customers, total gas delivered to non-residential customers, total number of customers) (id. at 37). In both cases, the Petitioners argue that weather patterns, load characteristics,

customer mix, and other factors have influenced the results of the study in ways unaccounted for by the researchers (id. at 36-37).

c. Analysis and Findings

The Department agrees with the Petitioners that the results of the Adamson and Hartman study are explainable by extraneous factors, particularly local weather and load characteristics. As noted, above, the Adamson and Hartman studies use only three output variables: (1) total gas delivered to residential customers; (2) total gas delivered to non-residential customers; and (3) total number of customers. Two of these variables are directly affected by weather (Tr. 4, at 589-590). Gas consumption is influenced by the weather; and analytic techniques to normalize gas consumption and gas throughput have generally been employed to adjust for weather effects. D.P.U. 96-50, at 28; D.P.U. 93-60, at 4. The analysis should have corrected for the effects of weather on consumption. The resultant proposal of a 3.2 percent productivity offset is untenable. Because the analysis failed to make appropriate corrections for local conditions, the Department finds that the conclusions regarding total factor productivity are not reliable.⁽⁴⁵⁾

As discussed above, the Department rejects the Attorney General's recommended productivity offset. We also note that the Petitioners have provided no evidence to support a productivity offset for Colonial in this case. Rather, the Petitioners proposed to begin with the productivity offset of 1.5 percent implemented in Boston Gas' PBR case and adjust it downward to account for Boston Gas' appeal to the Supreme Judicial Court ("SJC") on certain components of the productivity offset (Tr. 6, at 893-894).⁽⁴⁶⁾ The Department concludes that this model is also flawed. There is no scientific, economic, or empirical justification for taking the arithmetic mean between 0.5 percent consumer dividend and 1.5 percent productivity offset implemented in D.P.U. 96-50-C to arrive at a productivity offset (Tr. 6, at 894).

The productivity offset approved for Boston Gas is not necessarily unique to Boston Gas or any specific gas company since the productivity and input-price-growth indices were derived from a sample of many LDCs and were fully adjudicated and implemented by the Department in D.P.U. 96-50 and D.P.U. 96-50-C. The Department previously has found that when considering historic productivity, reliance on company-specific data is inappropriate because (1) in a competitive environment, the company's prices would change at the same rate as the industry average productivity change, not at the rate of the company's own productivity change, and (2) the company's incentive to improve productivity would be dampened by the knowledge that future productivity offsets would be set based on the company's own productivity. See NYNEX, D.P.U. 94-50, at 163-164 (1995). Thus, because productivity offsets are not company-specific, it is appropriate to use a productivity offset developed for another LDC for the purpose of this case. Therefore, the Department finds it reasonable to use the same productivity offset implemented for Boston Gas in the tracking mechanism for Colonial. The Petitioners' use of the 1.0 percent productivity offset is rejected, because it is not the industry-wide productivity offset determined by the Department in D.P.U. 96-50. For the purpose of determining the savings to be achieved by avoidance of rate cases during the ten-year

period of the rate freeze, the Petitioners shall employ the 1.5 percent productivity offset. Using the model provided by the Petitioners for arriving at the amount of savings (Exh. JFB-2, at 3), the Department determines that a change in the productivity offset reduces the savings figure from \$127.6 million to \$111.2 million.⁽⁴⁷⁾ For the purpose of determining what Colonial's revenue requirement would be at the end of year ten of the rate freeze had Colonial operated on a stand-alone basis, the Petitioners shall employ the 1.5 percent productivity offset until such time as a different percentage is found appropriate as a result of (1) Boston Gas' appeal to the SJC regarding the productivity offset for the first term of Boston Gas' PBR plan, and (2) a new productivity offset is devised for Boston Gas subsequent to the first term of its PBR plan.⁽⁴⁸⁾

The Attorney General maintains that the savings of approximately \$127.6 million over the ten-year period of the rate freeze are illusory because of the use of a 1.0 percent productivity offset. However, the value of a rate freeze to the consumer results from two benefits: (1) the avoidance of a rate increase, and (2) protection from the effects of inflation. The Petitioners have partitioned the value of the \$127 million benefit into a \$74 million savings from avoided rate cases and \$53 million in avoided inflationary costs (Exh. JFB-2, at 3; Petitioner Reply Brief at 8). Hence, Colonial ratepayers benefit significantly from the merger plan because of the protection from inflation that the rate freeze affords.

Finally, the Department agrees with the Petitioners that the proposed price cap formula does not affect rates, as rates are frozen for ten years. Thus, the Department is not approving a price cap formula for Colonial's rates for ratemaking purposes. Rather, the tracking mechanism is to be used to determine (1) the savings to be achieved by avoidance of a rate case during the ten-year period of the rate freeze and (2) what Colonial's revenue requirement would be at the end of year ten of the rate freeze, had Colonial operated on a stand-alone basis.

5. Gas Costs

a. Introduction

The Rate Plan provides for an estimated 2.2 percent annual reduction in the current burner-tip price of gas (based on Colonial's total 1997 normalized revenues of approximately \$183 million) resulting in estimated savings of \$1 million in the first full year following the merger, and \$4 million per year for the remaining term of the rate freeze (Exh. JFB-1, at 3). The Petitioners state that \$37 million of projected savings would result from the synergies, efficiencies, and economies of scale of combining the gas supply functions of Colonial, Boston Gas, and Essex (*id.* at 2). The Petitioners propose to pass the savings to Colonial's customers through the cost of gas adjustment clause ("CGAC")⁽⁴⁹⁾ (*id.* at 3). The Petitioners also indicate that the opportunity to capture synergies is further enhanced because the service territories of Boston Gas, Essex, and Colonial are contiguous and connected through the Tennessee Gas Pipeline Company ("Tennessee") and the Algonquin Gas Transmission Company ("Algonquin") (Exh. WRL-1, at 2).⁽⁵⁰⁾ The Petitioners also state that the opportunity to attain operational

synergies is further heightened because the distribution systems of Boston Gas and Colonial are physically connected in Littleton (id.).

In determining the potential for gas cost savings resulting from the merger, Colonial states that it reviewed the gas sendout requirements of each of its contracts to determine which contracts, if any, could be reduced or displaced⁽⁵¹⁾ as a result of the ability to coordinate its gas supply portfolio with that of Boston Gas and Essex (id. at 6). Specifically, the Petitioners arrive at the \$37 million figure by (1) eliminating Boston Gas' need for Tennessee backhaul⁽⁵²⁾ of Maritimes and Northeast ("M&NE")⁽⁵³⁾ volumes through a displacement arrangement with Colonial; (2) avoiding the Algonquin transportation costs associated with Colonial's Distrigas of Massachusetts Corporation ("DOMAC")⁽⁵⁴⁾ contract when that contract expires in October 2000; (3) optimizing Colonial's upstream assets; and (4) restructuring Colonial's DOMAC contract upon the contract's expiration in October, 2000.

The Petitioners state that multiple dispatch analyses were performed to evaluate (1) the most efficient resource mix; (2) whether incremental levels of Boston Gas/Essex resources could or would be substituted for certain resources in Colonial's portfolio; and (3) whether Colonial's resources could displace certain elements in Boston Gas' portfolio with savings credited back to Colonial's customers (id. at 6-7).

The Petitioners identified two components in achieving the estimated \$1 million in gas related savings for the first year following the merger. First, based on the efficiencies of combined dispatch, the Petitioners propose to substitute 0.65 billion cubic feet ("Bcf") of Colonial's DOMAC LNG with an equal amount of Boston Gas' less expensive, pipeline delivered natural gas (anticipated to be \$.12/MMBtu less expensive)⁽⁵⁵⁾ yielding an annual savings of \$78,000 (Exh. DTE 3-44). Second, the Petitioners claim that, by virtue of the synergies created by the merger, Colonial would be able either to release or to eliminate a portion of its redundant upstream capacity commitments (id. at 6). The Petitioners estimate the collective annual savings from these reduced capacity commitments to be \$869,000 for each of the ten years of the rate freeze (Exhs. DTE 3-46; WRL-1, at 8).

The Petitioners identified the following components of the estimated \$4 million per year in gas-related savings for each of the remaining nine years of the rate freeze. First, the Petitioners claim that 65 percent of Boston Gas' contracted entitlements⁽⁵⁶⁾ with M&NE from Sable Island could be delivered directly to Colonial's service territory in Dracut (Exh. WRL-1, at 7). Through displacement, equal volumes of Colonial's gas supply would then be delivered

to Boston Gas (id. at 7-8). The prospect of using displacement rather than Tennessee backhaul services for delivery, the Petitioners state, would enable Boston Gas to avoid approximately \$1.7 million annually in transportation costs (Exh. DTE 3-36). Second, the Petitioners have projected that Colonial can avoid approximately \$854,000 in annual transportation charges associated with allowing Colonial's DOMAC contract to expire in

October 2000. That contract provides for delivery of vaporized LNG to Colonial's Cape Cod division via Algonquin (Exh. DTE 3-39). In its place, the Petitioners indicate that Boston Gas can take the DOMAC volumes in Everett and deliver an equivalent amount of natural gas out of its own supplies to Colonial's Cape Cod division (Exh. WRL-1, at 8). Third, the Petitioners estimate that through the synergies of combined dispatch, Colonial will be able to reduce its LNG deliverability needs by 1,500 MMBtu⁽⁵⁷⁾ per day (Exh. DTE 3-44). In calculating the demand savings associated with Colonial's reduced LNG requirements, the Petitioners claim that Colonial would be able to restructure its DOMAC contract⁽⁵⁸⁾ upon expiration in 2000 (Exh DTE 3-41). The Petitioners have calculated that Colonial would realize a reduction in total demand charges of \$480,000 annually (Exh. DTE 3-44). Combining the \$480,000 reduction with the first year estimated LNG cost savings of \$78,000 (discussed earlier), the Petitioners estimate \$558,000 in annual LNG-related savings for each of the remaining nine years of the rate freeze, as a result of Colonial's reduced LNG requirements.

The gas-related savings, as proposed by the Petitioners and described in this section, are summarized in the chart below:

SUMMARY OF COST SAVINGS	1999/2000	2001/2009 ⁽⁵⁹⁾
Elimination of Tennessee backhaul for M&NE volumes	-	\$1,721,000
Savings on transportation component of DOMAC contract	-	\$854,000
Upstream Optimization	\$869,000	\$869,000
Restructuring of Colonial's DOMAC contract	\$78,000	\$558,000
<i>TOTALS</i>	<i>\$947,000</i>	<i>\$4,002,000</i>

b. Positions of the Parties

i. Attorney General

The Attorney General contends that, because the record does not indicate the willingness of DOMAC to restructure its existing contract with Colonial, the Petitioners' savings assertions are unsupported (Attorney General Brief at 29). The Attorney General further states that, in the future and irrespective of the validity of gas supply savings projections, the cost of gas will be determined by competitive market conditions rather than individual LDCs (*id.* at 11). Consequently, the Attorney General argues that the Petitioners' gas supply savings projections should be given little consideration (*id.*).

ii. Petitioners

The Petitioners contend that, pursuant to the Department's standard by which merger proposals are reviewed, a merger or acquisition could be found to be consistent with the

public interest even where no gas-cost savings resulted (Petitioners Reply Brief at 36). Therefore, the Petitioners argue that the "attainment of any level of gas-cost savings will benefit customers and leave them better off than they would be in the absence of the merger" (id. at 37).

In response to the Attorney General's argument that there is no evidence that DOMAC would restructure its existing contract with Colonial, the Petitioners assert that with the leverage from the combined systems of Boston Gas, Essex, and Colonial, favorable financial arrangements with DOMAC are likely (id.).

c. Analysis and Findings

The Department has stressed the importance of utility companies' exploring any and all opportunities for cost savings. NIPSCO-Bay State Acquisition at 26; Eastern-Essex Acquisition at 26; Mergers and Acquisitions at 18. The Department has long recognized the importance of gas cost savings to the §96 public interest standard. Boston Gas Company, D.P.U. 17138, at 9.

Further, the Department has stated that mergers and acquisitions are useful and potentially beneficial mechanisms for utility companies to consider in meeting their service obligations. NIPSCO-Bay State Acquisition at 26; Eastern-Essex Acquisition at 26. The Department here evaluates (1) whether the opportunity exists for the Petitioners to achieve the gas cost savings described in the proposal while maintaining the level of service and reliability Colonial customers have experienced; and (2) whether the projections of the Petitioners are reasonable, based on the evidence. NIPSCO-Bay State Acquisition at 26; Eastern-Essex Acquisition at 26.

The Department recognizes that the \$37 million in aggregate gas-related savings is projected over the term of the rate freeze and that actual savings may vary year-to-year. All calculations of the effect of future events are based on an estimation of likelihood. The Department must decide, whether based on logic, fact, and law, such estimations may reasonably be relied upon in assessing costs and savings. NIPSCO-Bay State Acquisition at 26; Eastern-Essex Acquisition at 26. Accordingly, the Department has evaluated each component of the projected \$37 million gas-related savings. Specifically, the Department reviewed the reasonableness of the Petitioners' proposal to (1) eliminate Boston Gas' Tennessee backhaul services through a displacement arrangement with Colonial; (2) realize avoided cost savings from the transportation component of Colonial's expiring DOMAC contract; (3) release and/or eliminate redundant upstream capacity; and (4) reduce Colonial's historic level of LNG commitments by restructuring Colonial's DOMAC contract.

First, the prospect of Colonial receiving a CGAC credit by virtue of a backhaul arrangement with Boston Gas is achievable since Boston Gas and Colonial, as wholly-owned subsidiaries of Eastern with a combined gas supply portfolio after the merger, are amenable to the proposition (Exh. WRL-1, at 8). Further, the record supports the Petitioner's annual savings projection of \$1.7 million borne from its backhaul proposal

(Exh. DTE 3-36). Second, the record supports the Petitioner's projection that, upon expiration and non-renewal of Colonial's DOMAC contract in October, 2000, Colonial would not have to pay the Algonquin transportation charges thereby saving \$854,000 per year (Exhs. DTE 3-39; DTE 7-30).

Third, the record indicates that, as a result of the merger, Colonial will be able to

release or eliminate its redundant upstream capacity commitments by optimizing the gas supply portfolios of Boston Gas, Colonial and Essex. This optimization will yield approximately \$869,000 in annual savings (Exh. DTE 3-46). While the full magnitude of these projections may or may not be realized, on whole, it is likely that because of the merger, some degree of cost savings will materialize due to the reduction in contractual redundancy. Fourth, the Petitioners have demonstrated that the synergies of combined dispatch will enhance supply efficiencies enabling Colonial to reduce its historic level of LNG commitments by 1,500 MMBtu/day (Exhs. DTE 7-26, DTE 3-44). By reducing Colonial's LNG commitments, the Company would be in a position to restructure its DOMAC contract upon contract expiration to bring a restructured contract into line with its reduced LNG needs.

With regard to the Attorney General's argument that the savings potential from DOMAC's restructuring may not materialize because DOMAC may not be willing to restructure the existing contract, we note that the contract under discussion expires in 2000. Prior to this expiration date, DOMAC may be unwilling to re-negotiate with Colonial; however, the short term time period involved makes minimal the level of total foregone gas savings. Moreover, even if DOMAC were unwilling to restructure the contract and/or if the estimated savings from restructuring the DOMAC contract did not materialize, the record supports the likelihood that the merger and the enhanced purchasing power of Colonial as one of three Eastern-owned gas companies will create gas costs savings for ratepayers. Finally, the remaining components of the projected gas costs savings do not rely on DOMAC or any other third party. Rather, they rely on the already expressed agreements of both Colonial and Boston Gas to optimize their existing resources.

For all the reasons set forth above, the Department finds that, as a result of the merger, gas cost savings are likely to accrue to Colonial's customers. Therefore, ratepayers are likely to be better off with respect to gas costs, and certainly no worse off, than they would be absent the merger.

B. Effect on Service Quality

- Introduction

The Petitioners propose a service quality plan for Colonial similar to that approved in Eastern-Essex Acquisition.⁽⁶⁰⁾ The proposed plan would use the following measures of service quality: (1) emergency, billing, and service (non-emergency) telephone-call answering-time; (2) response to emergency odor calls within 60 minutes; (3) lost-time

accidents; (4) service appointments met on same day as scheduled; and (5) on-cycle meter reading (Exh. NS-1, at 18). These measures make up a service quality index ("SQI") (Petitioners Brief at 30). Unlike the service quality plans of Essex and Boston Gas, the Petitioners did not propose to include data or statistics derived from data collected by the Department's Consumer Division as a measure of the Company's service quality.⁽⁶¹⁾ According to the Petitioners, the data may not accurately indicate the level of a company's service quality. (Exh. NS-1, at 15-16).

Originally, the Petitioners proposed that 18 months would be required, post-merger, to put the necessary measurement and reporting systems in place to support the program. Subsequently, the Petitioners indicated their willingness to provide data regarding the service quality measures on a quarterly basis before the 18 month interval requested (id.; Tr. 7, at 1029-1030). According to the Petitioners, following six months of system integration, the Department would begin receiving reports, on a quarterly basis, showing service quality performance (Tr. 7, at 1029-1030, 1033). However, the Petitioners maintained that the establishment of performance goals for each of the measures could occur not earlier than twelve months following the date of data collection systems integration, or, in other words, 18 months following the merger (Exh. NS-1, at 18; Tr. 7, at 1033). The performance goals, derived from baseline data, would serve as the foundation of the Petitioners' service quality plan to be submitted to the Department following the 18-month period (Exh. NS-1, at 18-19).

2. Positions of the Parties

a. Attorney General

The Attorney General maintains that the Petitioners' service quality plan does not "provide adequate mechanisms to protect against degradation in the levels of service provided to Colonial's customers and therefore it must be rejected" (Attorney General Brief at 38). The Attorney General contends that the companies would not provide timely indicators of service quality, because they would delay establishment of the service quality plan until 18 months after the merger (id. at 39). The Attorney General also argues that because the Petitioners have not established a service quality plan with pre-merger data, it will not be possible to ascertain post-merger changes in service quality (id. at 40).

To address his concern, the Attorney General proposes to create a service quality plan using Colonial's pre-merger data (Attorney General's Reply Brief at 11-14).⁽⁶²⁾ The Attorney General's system would use the five service quality measures proposed by the Petitioners, as well as data customarily employed by the Department, and would penalize Colonial 1.0 percent of the prior year's revenues for failure to meet the performance goals established (id.). The penalty would be apportioned equally among the six service quality measures if any one, or all, of the performance goals were not reached (id.).

b. Petitioners

The Petitioners contend that their service quality plan will provide the Department with a "mechanism for insuring that service quality does not degrade as a result of the merger" (Petitioners Brief at 30). The Petitioners recognize that service quality is an essential factor in reviewing a merger and they note that in Eastern-Essex Acquisition at 32-33, the Department indicated that the omission of a service quality plan was a serious oversight (Exh. NS-1, at 10). According to the Petitioners, the fact that the Department imposed a service quality plan in Eastern-Essex Acquisition led the petitioners to propose a similar plan for Colonial (id.).

The Petitioners contend that, similar to the circumstances in Eastern-Essex Acquisition, it will take six months to integrate the two companies' systems in such a way that Colonial's performance can be measured in the same fashion that Boston Gas' performance is measured (Petitioners Brief at 30; Tr. 7, at 1028). From that point, the Petitioners claim that it will take an additional twelve months to compile baseline data that could then be used to establish performance goals for Colonial (Petitioners Brief at 30; Tr. 7, at 1028-1029). The Petitioners believe that with Colonial's adoption of the service quality measures and systems and technology offered by Boston Gas, the Department will be able to ascertain the effect of the merger on service quality (Petitioner Reply Brief at 31).

3. Analysis and Findings

The Department has recognized the importance of maintaining service quality, particularly when mergers, and the resultant efforts to achieve cost savings, can potentially lead to service quality degradation. D.P.U./D.T.E. 97-63, at 15; Mergers and Acquisitions at 8-10 (1994). This recognition led the Department to direct all companies that file for approval of mergers or acquisitions to include a service quality plan as an essential part of the filing. Eastern-Essex Acquisition at 33.

The Petitioners' service quality plan will be fully developed when SQI benchmarks are determined in the future. In the meantime, the Petitioners will report to the Department, quarterly, the data being acquired on each measure employed (Tr. 7, at 1029-30; 1033). The Department can use the information provided to detect changes in service performance by comparing the measures from quarter to quarter. Consequently, the Department can monitor service quality almost immediately after the merger and before performance goals are established. Therefore, with the exception of the proposed treatment of the Consumer Division data, discussed below, the Department finds the proposed service quality plan to be reasonable. The Department directs the Petitioners to provide quarterly reports of Colonial's performance on each of the measures specified below, beginning no later than three months following the sixth-month period needed to integrate Colonial's and Boston Gas' customer service systems. The Department further directs the Petitioners to collect data over the twelve month period (from the date of systems integration) to develop SQI benchmarks as part of an overall service quality plan. One month after the close of this 18-month period,⁽⁶³⁾ the Petitioners shall file a proposed performance plan, including the benchmarks for service quality measures. Upon receipt of this filing, the Department will open a proceeding to investigate establishing service quality standards and associated penalties⁽⁶⁴⁾ as a disincentive to or safeguards against

deterioration of service. Eastern-Essex Acquisition at 33. During the intervening 18-month period, however, the Department expects that the Petitioners will maintain their current service quality and undertake to improve it. Id.

With respect to the timing of the integration of Colonial's and Boston Gas' customer service systems, the Department finds that the Petitioners require reasonable time for systems integration and for structuring a data reporting system. This schedule is identical to the one that the Department deemed reasonable in Eastern-Essex Acquisition, and we find no reason to rule otherwise in the instant matter.

The following sections provide details concerning each of the service quality measures that the Petitioners are directed to include in their service quality plan. We compare the service quality experience of Boston Gas to that of Colonial to show the relative standing of each company prior to the merger of Eastern and Colonial and the integration of Boston Gas' and Colonial's data collection systems.

a. Percent Emergency Calls

According to the Petitioners, Colonial handled 69.34 percent of all non-emergency calls (including billing and service calls within 40 seconds from July 1997 through June 1998 (Exhs. NS-1, at 12; NS-3). Boston Gas reports handling 86.73 percent of emergency, billing, and service calls within 40 seconds for the July 1998 through the December 1998 period (Exh. DTE-10-8, at Att. 1). Boston Gas' figures are a weighted average of the three call types (e.g., average response time weighted on basis of number of billing, service and emergency calls received) (id.). Colonial does not maintain records concerning emergency calls (Exh. NS-1, at 12). The Petitioners propose to disaggregate emergency, service and billing calls from total number of calls as is done for Boston Gas (Tr. 7, at 1035). The percentages of emergency and non-emergency calls handled shall be included in the SQI.

b. Percent Odor Calls responded to in 60 Minutes

Currently, Colonial does not distinguish between Class I and Class II odor calls (Tr. 7, at 1029, 1036). (Class I calls are those where there is a strong odor of gas from a household, whereas Class II calls are those that relate to an occasional or small odor from an appliance. D.P.U. 96-50, at 294.) Colonial indicates that it will begin to make this distinction when its systems are integrated into those of Boston Gas (Exh. DTE 10-8, at Att. 2). From July 1998 through December 1998, Colonial reported, and the Department calculated, a 92.24 percent response rate to odor calls within 60 minutes (id. at Att. 7). Boston Gas reported a 96.34 percent response rate within 60 minutes for the same period for both Class I and Class II calls (id. at Att. 2). Colonial will also be calculating and reporting a measure which includes Class I and Class II designations. The percentage of odor calls responded to in 60 minutes shall be included in the SQI.

c. Incidence Rate for Lost-time Accidents

Colonial measures the incidence rate for lost time accidents.⁽⁶⁵⁾ For July 1997 through December 1998 Colonial averaged 5.71 percent of lost time relative to total work time (per 200,000 hour periods) (*id.* at Att. 8). The Boston Gas measure for the period July 1998 through December 1998 was 1.15 percent of lost time relative to total working time (per 200,000 hour periods) (*id.* at Att. 3). The Petitioners propose to provide the same type of data as is currently provided by Boston Gas for the incidence rate for lost-time accidents (Tr. 7, at 1037). The Department directs the Petitioners to include incidence rate for lost-time accidents in its proposed SQL.

d. Percent Service Appointments Met on Same Day Scheduled

Colonial reported that with a new CAD system it recently began capturing data on the percentage of service appointments being met on the same day as scheduled (Exh. NS-1, at 15). Colonial was able to report, from May 1998 through December 1998, a 99.01 percent success rate on meeting appointments on the scheduled day (Exh. DTE-10-8, at Att. 9). Boston Gas reported a rate of 97.59 percent for the same period (*id.* at Att. 4). The percentage of service appointments met on the day scheduled shall be included in the SQL.

e. Meter Readings

For the months of July 1998 through December 1998, Boston Gas reported actual meter readings of 96.54 percent (Exhs. NS-1, at 15; DTE 10-8, Att. 5). The Colonial figure for the period June 1998 through December 1998 was 94.10 percent (Exh. DTE 10-8, at Att.10). The monthly percentage of actual meter readings shall be included in the SQL.

f. Consumer Division Complaints and Billing Adjustments

For all of the regulated utilities in the Commonwealth, the Department's Consumer Division maintains a record of calls received by customers regarding a company's service quality and billing. The Department has directed companies to use the Consumer Division's data to establish a benchmark to assess service quality. See D.P.U. 96-50-C at 66-69; Eastern-Essex Acquisition at 39. Here, the Petitioners propose that the Consumer Division's data be excluded as a component of Colonial's service quality plan because the Petitioners maintain that the statistics derived from the data may not accurately indicate the level of a company's service quality. The Department believes that the Consumer Division statistics can provide a useful measure of a company's service quality. The number of Colonial-customer calls logged by the Consumer Division could indicate inadequate communications between Colonial and its customers on matters concerning invoices, billing adjustments, or other service quality concerns. Moreover, the Department agrees with the Attorney General that the number of complaints made by Colonial's customers to the Consumer Division provides a means to compare Colonial's service quality pre- and post-merger. Accordingly, the Department directs Colonial to include a proposal for using the Department's Consumer Division's complaint and billing adjustment statistics in its service quality plan.

The Department acknowledges, however, the Petitioners' concerns regarding the appropriateness of using statistics derived from the Consumer Division's data in a changing gas industry. Therefore, the Department requests that the Petitioners address how these statistics can and, in the Petitioners' view should, be used to assess Colonial's overall service quality.⁽⁶⁶⁾

C. Financial Integrity of the Post-merger Entity

1. Introduction

The Petitioners state that the merger would have no adverse effect on Colonial's financial integrity and, as a subsidiary of Eastern, Colonial would have access to broader financial resources (Exh. JFB-1, at 36). Additionally, the Petitioners believe that the greater financial and operational resources that would be available to both Eastern and Colonial will strengthen their competitive positions in a deregulated energy marketplace (*id.*). The Attorney General did not address this issue.

2. Analysis and Findings

The Department has stated that the financial integrity of a company may be one of the factors considered in evaluating a merger petition. NIPSCO-Bay State Acquisition at 48; Mergers and Acquisitions at 8-9. Pursuant to the merger, Colonial would become a

wholly-owned subsidiary of Eastern. A review of Colonial's financial and operating data, as represented by its annual returns to the Department,⁽⁶⁷⁾ demonstrates that Colonial is a financially viable company. Moreover, Colonial's post-merger financial position is likely to be enhanced by the additional capital sources and the ability to reduce costs through a combined corporate structure, that would be available through its affiliation with Eastern. Specifically, the operational synergies and the likely resultant cost savings would place the post-merger company in a position to provide utility service at reduced costs. Accordingly, the Department finds that the merger would not adversely affect Colonial's financial integrity.

D. Fairness of the Distribution of Resulting Benefits Between Shareholders and Ratepayers

1. Introduction

The Petitioners state that the benefits from the merger would be distributed between Eastern's shareholders and Colonial's customers (Exh. JFB-1, at 36). Specifically, the Petitioners note that customers would receive benefits relating to the ten-year rate freeze (*id.*). In return, the Petitioners state that Eastern's shareholders would benefit from the opportunity to retain merger-related operational and management savings over the same

ten-year period, and to the extent demonstrated, over the subsequent 30-year period of the Rate Plan, to compensate for the acquisition premium (*id.*). The Petitioners seek not a "guarantee" of recovery of Eastern's acquisition premium, but rather the "opportunity" to recover it (Petitioners' Brief at 17, 29).

2. Analysis and Findings

The Department's standard for determining whether the distribution is fair is if there is no net harm to ratepayers. NIPSCO-Bay State Acquisition at 9-10; Eastern-Essex Acquisition at 8. In Mergers and Acquisitions at 9, the Department noted that in assessing whether a proposed transaction is consistent with the public interest, one factor that we could consider is whether the merger's resulting benefits are fairly distributed between the shareholders and the ratepayers. As the Department determines below, the shareholders will have an opportunity to recover the acquisition premium and the return on the cash advance, amortized over 40 years. Pursuant to the Petitioners' proposal, recovery of the acquisition premium and the return on the cash advance by the shareholders for years one through ten of the Rate Plan depends on whether the savings that result from the merger exceed costs, including the amount of one fourth of the acquisition premium and the return on the cash advance. In years eleven through 40, shareholders will have the opportunity to recoup the remaining three-fourths of the acquisition premium and return on the cash advance after they quantify the synergies and demonstrate that the benefits of the merger equal the amount of the acquisition premium.⁽⁶⁸⁾ As collection of the acquisition premium and return on the cash advance is related to the dollar amount of the benefits received by ratepayers, the Department finds that the distribution of these benefits between the ratepayers and shareholders is fair.

E. Societal Costs

1. Introduction

The Petitioners assert that the societal costs resulting from the elimination of redundant positions would be minimal because of Eastern's commitment to maintain a presence in the Colonial service territory and to mitigate the effect of the merger on displaced employees (Exh. JFB-1, at 37). In addition, the Company states that all contractual agreements with the bargaining units will be honored (*id.*). Finally, the Company states that it would implement programs of early retirements and severance offerings, and outplacement and retraining support (*id.*). The Attorney General did not address the employment or labor issues on brief.

2. Analysis and Findings

The Department notes that the societal costs must be weighed and balanced against the benefits resulting from the merger and the Rate Plan. We do not lightly regard the effect of mergers on employment. NIPSCO-Bay State Acquisition at 50; Eastern-Essex Acquisition at 44. Although job redundancies in consolidated systems would impose avoidable costs and thus would be detrimental to ratepayers, the Department has noted

that the elimination of these redundancies should be accomplished in a way that mitigates the effect on the utility's employees. NIPSCO-Bay State Acquisition at 50; Eastern-Essex Acquisition at 43. To mitigate the societal costs resulting from employee layoffs, Colonial has instituted various programs, including early retirement and severance offerings, and outplacement and retraining support (Exh. JFB 1, at 37; Tr. at 979-983). Available employment opportunities already have been provided to employees whose positions have been eliminated (Tr. at 982-983). Additionally, the Petitioners have stated that any workforce reductions would be carried out in accordance with all applicable contractual agreements (Exh. JFB-1, at 37). Given this evidence, the Department finds that the Petitioners are taking adequate steps to minimize the effect of job displacement on its employees.⁽⁶⁹⁾

To follow up on the effectiveness of Petitioners' proposed efforts, and to ensure that the Petitioners are in fact assisting displaced workers, the Department directs the Petitioners to submit annual reports detailing their displaced worker assistance efforts. Three reports shall be required. The first report shall be filed one year after the consummation of the merger, with the second and third reports to be submitted annually thereafter, as in Eastern-Essex Acquisition at 44.

F. Cost Allocation Issues

1. Introduction

The Petitioners propose that the incremental costs associated with providing services to Colonial customers be assigned to Colonial's customers (Exh. JFB-1, at 31). Additionally, the Petitioners stated that with its first base rate filing after the expiration of the ten-year rate freeze period, Colonial would perform a full cost allocation study that would assign functions to costs, classify expenses in each category, identify appropriate allocators, and reveal how the costs between Eastern's affiliates were allocated

(Tr. 7, at 1006).

2. Positions of the Parties

a. Attorney General

The Attorney General contends that the Petitioners' plan for incremental cost allocations between the holding company and utility subsidiaries is inconsistent with Department and FERC precedent (Attorney General Brief at 40). To ensure that cost allocations are properly made, and that arm's-length transactions occur between affiliates within the holding company structure, the Attorney General calls for the establishment of either a management service agreement or a tax-sharing agreement with Colonial (id.).

b. Petitioners

The Petitioners claim that their proposal complies with the incremental cost-allocation method directed by the Department (Petitioners' Reply Brief at 42, citing Eastern-Essex Acquisition, D.T.E. 98-27-A at 5 (Order on Motion for Reconsideration/Clarification)). Specifically, the Petitioners state that all incremental costs incurred by Boston Gas to perform activities on behalf of Colonial would be charged to the books of Colonial during the ten-year period of the rate freeze (id.).

3. Analysis and Findings

In accordance with the Department's directives in D.T.E. 98-27-A at 4-5, the Petitioners will assign to Colonial Gas any incremental costs incurred by Boston Gas and/or Essex for providing a service to Colonial. The incremental cost approach during the Rate Plan is designed to protect Boston Gas' and Essex Gas' customers from subsidizing Colonial's customers, and still allow merger savings to be allocated to shareholders. D.T.E. 98-27-A at 5. Accordingly, the Department finds that the Petitioner's proposal as related to the assignment of incremental costs is reasonable and is accepted. The Department directs the Petitioners to perform a cost allocation study and submit the results as part of the first base-rate filing submitted by Colonial after the expiration of the ten-year rate freeze period. Specifically, the cost allocation study should assign functions to costs, classify expenses in each functional category, detail the allocation methods employed by the Petitioners, and establish the actual incremental costs assigned to Colonial.⁽⁷⁰⁾

G. Transaction and Merger Integration Costs

1. Introduction

According to the Petitioners, the merger will result in expenses of \$29.8 million in transaction and merger integration costs necessary to complete the merger.⁽⁷¹⁾ The Petitioners propose to amortize these transaction and system integration costs over a period of ten years (Exh. JFB-1, at 17). According to the Petitioners, these costs are reasonable and, in several instances, dictated by accounting standards and contractual obligations (Exh. DTE 3-25(b)). The Attorney General did not address this issue.

2. Analysis and Findings

In Mergers and Acquisitions, the Department stated that the public interest standard mandated under § 96 requires the quantification of costs and benefits to the extent that such a cost-benefit analysis is susceptible of quantification. Mergers and Acquisitions at 7. An evaluation of the transaction and merger integration costs is necessary to assess the costs and benefits of the merger. The Department recognizes that quantification or characterization of certain merger-related costs and benefits is not subject to the same level of precision as generally can be attained in a traditional cost-of-service proceeding. However, such costs or benefits are real and must be weighed in the balance. The Department notes that transaction and merger integration costs can be quantified; and therefore, we will evaluate these expenses based on that quantification.

The Department has previously found that transaction costs associated with a merger or acquisition are allowable if the merger is in the public interest, and if the transaction costs are reasonable in view of the magnitude of the assets involved, the complexity of the transfer, and the merger's benefits. See Eastern-Essex Acquisition at 52-53.

Here, the overall scope of the transaction - as measured by the probable value of the stock transfer - is approximately \$332 million.⁽⁷²⁾ The Department finds that in view of the magnitude of the assets involved in this matter, the complexity of the transfer, and the immediate and the long range benefits of the merger, transaction and merger integration costs of approximately \$29.8 million are reasonable. See Eastern-Essex Acquisition at 52-53. Accordingly, the Department includes the full amount of these costs in our estimation of the costs associated with the merger.

While the Department includes the \$29.8 million in our evaluation of the costs and benefits associated with the merger, the transaction expenses cannot be determined with finality until after the completion of the merger. Similarly, the Petitioners' merger integration costs, such as those related to early retirement and severance packages, may depend in part upon the results of collective bargaining processes, and thus cannot be precisely quantified at this time. Accordingly, the Department hereby directs the Petitioners to provide the Department with an accounting of the final transaction and merger integration costs. Specifically, the Petitioners shall provide a detailed listing of the transaction costs 90 days after the date of consummation of the merger and provide a detailed listing of the merger integration costs nine months from the date the merger is consummated. NIPSCO-Bay State Acquisition at 47; Eastern-Essex Acquisition at 57.

H. Acquisition Premium

1. Introduction

Eastern will pay Colonial's shareholders \$199.2 million over book value to acquire Colonial's gas distribution business (Exh. WJF-1, at 12). This acquisition premium is derived by first calculating the difference between the book value of \$14.11 per share for Colonial and the purchase price of \$37.50 per share, and then multiplying this difference by the number of shares of Colonial issued and outstanding as of November 18, 1998 (8,853,349 shares), the date of the proxy filing statement with the SEC (id. at 12).⁽⁷³⁾

The Petitioners propose to use purchase accounting for the transaction and to record the acquisition premium on Colonial's books, amortized over a 40 year period (Exh. JFB-1, at 19). The proposed accounting results in a \$5 million per year charge against Colonial's earnings (id.). Because this charge is not tax-deductible, the Petitioners propose to apply a tax factor of 1.6454 to achieve sufficient after-tax earnings to cover this charge (Exh. JFB-7). This treatment results in total pre-tax costs for the acquisition premium of \$8.2 million per year (id.). Adding these costs for the acquisition premium to the other costs of the merger, the Petitioners estimate that pre-tax earnings of \$15.3 million during the rate freeze period and \$12.3 million during the 30 years following the rate freeze period will be required to recover the costs of the merger (Exh. JFB-11 (Rev)). The Petitioners

propose to recover these costs through savings from synergies achieved during the ten year rate-freeze period, and to recover the remaining costs during the subsequent 30-year period based on demonstrated synergies (Exh. JFB-1, at 23).

2. Positions of the Parties

a. Attorney General

The Attorney General disagrees with the Department's policy to allow recovery of acquisition premiums and requests the Department to re-evaluate its policy (Attorney General Brief at 41). According to the Attorney General, the Department's policy on recovery of acquisition premiums fails to give the proper incentive to minimize the price paid by the acquiring company because there is "no practical time limit" on their opportunity to recover the acquisition premium (id. at 42).

The Attorney General argues that allowing recovery of acquisition premiums is not absolutely necessary to engender mergers (id.). In support of his argument, the Attorney General cites merger cases that have occurred in Colorado, Florida, Louisiana, New York, Oklahoma, and Tennessee, where full recovery of the acquisition premium was not allowed (id. at 43-45). The Attorney General contends that in each of these states, there is incentive to minimize the acquisition premium (id. at 45).

b. Petitioners

The Petitioners claim that they will incur costs associated with the acquisition premium that are reasonable and necessary to accomplish the merger, and therefore they must be provided with a reasonable opportunity to recover these costs through merger-related synergies (Petitioners Brief at 17). Further, the Petitioners argue that while the Rate Plan provides an opportunity for Eastern's shareholders to recover the costs of the transaction, it does not guarantee such recovery (id. at 15).

3. Analysis and Findings

The Department has stated consistently that it will consider, on a case-by-case basis, individual merger or acquisition proposals that seek recovery of an acquisition premium, as well as the appropriate recovery level of such a premium. NIPSCO-Bay State Acquisition at 38; Eastern-Essex Acquisition at 61; Mergers and Acquisitions at 18-19. Under the Department's standard, a company proposing a merger or acquisition must, as a practical matter, demonstrate that the costs or disadvantages of the transaction are accompanied by benefits that warrant their allowance. Thus, allowance or disallowance of an acquisition premium would be just one part (albeit an important one) of the cost/benefit analysis under the

§ 96 standard. NIPSCO-Bay State Acquisition at 38; Eastern-Essex Acquisition at 61; Mergers and Acquisitions at 18-19. The price paid, as a multiple of book value, is an

indication of the buyer's expectations of the acquired company's future contribution to the combined company's financial performance (Exh. JDH-1, at 6).

Regarding the Attorney General's argument that the Department's policy does not give sufficient incentive to the buyer to minimize the acquisition premium, the record evidence demonstrates that the purchase price was evaluated in light of a comparison with purchase prices associated with other recent mergers and acquisitions by LDCs (*id.* at 5-8). The record demonstrates that purchase prices have ranged from 0.8 to 3.2 times the seller's book value (*id.* at 5). Another measure for comparison used by the Petitioners was the ratio of the prices for previous mergers to the earnings of the acquired companies (*id.* at 6). The record demonstrates that buyers have paid between nine and 38 times the preceding twelve month earnings of the acquired company with a median ratio of approximately 16.5 (*id.* at 6-7). These price to earnings multiples are also justified by the long-term benefits that customers and shareholders will receive from the merger (*id.* at 7).

The proposed purchase price to be paid by Eastern for Colonial in this case represents 2.66 times Colonial's book value and 22.1 times Colonial's latest twelve month earnings (*id.* at 8). These ratios are consistent with recent comparable gas distribution acquisitions (Exh. JDH-4). Based on this evidence, the Department finds that the proposed purchase price for Colonial is comparable to other gas acquisitions and a valid expression of today's market conditions.

The Department notes that the Attorney General acknowledges that our policy on acquisition premiums has "propelled mergers" (Attorney General Brief at 42). As the Department stated in Mergers and Acquisitions at 5, we are interested in all measures that promote efficiency by discouraging waste, increasing productivity, and improving service reliability in order to lower costs for all customers. In an increasingly competitive market, mergers or acquisitions may represent one of many measures that could achieve savings, efficiencies, increased reliability, and better quality of service for Massachusetts utilities. The Department acknowledges that, in and of themselves, acquisition premiums could represent a cost to ratepayers. The basis, however, for allowing a premium is that a transaction otherwise in the public interest may not occur absent premium allowance. Therefore, the Department believes that the costs represented by the premium often are warranted by the benefits captured thereby. ⁽⁷⁴⁾

Throughout this proceeding, the Petitioners have represented that Eastern shareholders, not Colonial ratepayers, would bear any risk that operational savings and synergies arising from the merger would be insufficient to cover the annual amortization of the acquisition premium (Exh. JFB-1, at 14; Petitioners Brief at 15). This representation is one to which Eastern and Colonial may and will fairly be held throughout the period of the Rate Plan. Furthermore, during the next 30 years, recovery of the acquisition premium must be supported by demonstrated savings.

I. Cash Investment by Eastern

1. Introduction

As part of Eastern's acquisition of Colonial, Eastern intends to invest an amount equal to \$150 million in cash, of which \$144 million would be used to acquire Colonial and the remaining \$6 million would be used to acquire Transgas (Exh. JFB-1, at 19). Eastern's investment would be reflected as investments on the books of the respective companies, to be repaid over a term of 40 years (Exhs. WJF-1, at 11; JFB-10). The Petitioners have proposed to include the foregone annual levelized interest expense of \$4.1 million as a cost of the merger, to be recovered through savings resulting from merger-related synergies (Exh. JFB-1, at 22).

The Petitioners explain that if the merger-related synergies are insufficient to cover the \$4.1 million, Eastern's shareholders would be at risk for the amount of the shortfall (Tr. 6, at 882-883). The Petitioners represent that their ability to earn a return on the \$144 million cash advance is a core element of the merger proposal and their willingness to move forward with the completion of the proposed merger (Exhs. WJF-1, at 13-14; JFB-1, at 22; Tr. 3, at 417-418, 445).

2. Positions of the Parties

a. Attorney General

The Attorney General opposes any recovery of interest charges associated with the purchase of Colonial (Attorney General Brief at 37). The Attorney General contends that the Petitioners are seeking approval to collect a carrying charge on the price that Eastern has paid to acquire Colonial, even though Colonial's customers are already paying rates calculated to include a fair return on the property dedicated to the provision of utility service (*id.*).

Further, the Attorney General contends that to the extent that the Petitioners argue that the cash was not used to finance that portion of the purchase price that is offset by the book value of Colonial's assets, the Department should find that such an argument is contrary to ratemaking principles. In particular, the Attorney General argues first, that the Department does not "trace" investment dollars to specific assets (*id.*, citing Fitchburg Gas and Electric Light Company, D.P.U. 1214 (1982), at 60 *aff'd sub nom. Attorney General v. Department of Public Utilities*, 392 Mass. 262 (1984)). Second, the Attorney General asserts that requiring Colonial's customers to pay carrying costs on any amount of the acquisition premium would violate the long-standing ratemaking principle that consumers are entitled to the benefit of any gain on utility property (*id.* at 38, citing Eastern-Essex Acquisition).

The Attorney General further contends that allowing the Companies' proposal would effectively burden Colonial's customers by requiring them to subsidize the risks of acquisition activities in addition to providing compensation for the risks attending the provision of utility service (*id.* at 37-38). Finally, the Attorney General argues that because Eastern has a payout ratio of 75 percent of earnings, additional payments for

Colonial's common stock would represent a double-collection on shareholders' return on investment (id. at 38).

b. Petitioners

The Petitioners maintain that their proposal to recover approximately \$4.1 million per year associated with investment opportunity costs is a reasonable cost of the merger (Petitioners Reply Brief at 38, citing D.T.E. 98-27, at 69).

The Petitioners argue that the Attorney General's citations are not applicable in this case, and dispute his statement that recovery of any return on Eastern's investment and advance would represent a double-collection as incorrect (id. at 38-39). The Petitioners state that the \$144 million is significantly lower than the acquisition premium and Petitioners seek to recover only the lost earnings on the cash advance, rather than the regulated rate of return on the entire investment over and above book value, or \$199.2 million (Petitioners Brief at 21).

3. Analysis and Findings

The Department must determine: (1) whether Eastern's investment of \$144 million in cash was necessary to accomplish the merger; and (2) whether the Petitioners should be permitted to recover a return on the \$144 million investment in Colonial.

To accomplish the proposed transaction, Eastern is using its available cash and is foregoing the interest otherwise to be earned on the \$144 million. Inability to earn on the cash advance to Colonial would have a direct and adverse effect on Eastern's earnings. If Eastern has the opportunity to earn a return through the retention of merger-related synergies, the adverse effect would be mitigated and possibly eliminated, if the opportunity yields the results for which Eastern hopes. Judged on the evidence, the use of cash to accomplish the transaction would reduce the level of earnings dilution associated with the issuance of shares to Eastern by \$0.35 per share (Exh. JDH-1, at 10-11). The issuance of additional shares would require Eastern to retain a greater level of synergies to cover higher earnings dilution. Under the Petitioners' proposal Eastern's shareholders would need to retain savings from synergies of about \$12.3 million per year, excluding merger-integration and transaction costs, as opposed to about \$16.3 million per year, excluding merger-integration and transaction costs, required by the issuance of additional shares (Exh. DTE 10-1; Exh. AG 9-7 (Rev.); Tr. 3, at 470-477, 480). Therefore, the Department finds that the Petitioners' financing proposal results in a merger formed at a lower cost than it would have been had Eastern issued additional shares of stock.

The Attorney General's argument that Colonial's ratepayers would be double-charged is without merit. Colonial's rates are designed to produce a return on a book value of about \$119.8 million, while Eastern's investment in Colonial totals approximately \$319 million (Exh. JFB-8; Tr. 3, at 482). Of this \$319 million, \$144 million represents cash advances from Eastern, and Colonial's ratepayers would not be obligated to pay a regulated return on this amount. Under the proposed merger structure, the Petitioners would not treat the

cash advance as an equity account item. Instead the Petitioners will treat the advance as long-term debt and reflect an advance of \$144 million on Colonial's books (Tr. 7, at 1056-1057). As a result, Colonial's ratepayers would be paying only the interest on the advance, not the carrying charges on the acquisition premium as alleged by the Attorney General. The record demonstrates that the Petitioners have extended funds for a certain term, and have a proposed repayment schedule at a specified annual interest rate (Exh. JFB-1, at 20-21). These are attributes of a long term loan or advance and not an equity item.

Concerning the Attorney General's citations to Department precedent (Attorney General Brief at 37), the Department must not leave his mischaracterization uncorrected. The Petitioners are not seeking to link the cash investment to specific assets, but only seek recovery of foregone interest arising from the use of this cash. The Department has already found above that the selected financing method reduces merger-related costs, and thus concludes that recovery of these costs is appropriate.

Finally, the Department finds that the terms and conditions of the advance extended to Colonial are reasonable. The proposed interest rate of 5.5 percent represents the yield on Eastern's short-term liquid investments reflecting the low-risk associated with this type of investment and is far below the expected return on equity from investments in gas distribution operations (Exh. WJF-1, at 14; Exh. DTE 2-1). Compare D.T.E. 98-51, at 127 (1998); D.P.U. 96-50, at 133.

V. STOCK ISSUANCE

A. Introduction

As proposed, Merger Sub would be a wholly owned subsidiary of Eastern and issue and sell 100 shares of common stock, \$1.00 par value, to Eastern in exchange for \$100 (Petition at 2-3). The Petitioners request that the Department authorize and approve the proposed issuance of 100 shares of this common stock to Eastern (id. at 6). The Petitioners state that the proposed issuance is reasonably necessary to effect the merger (id. at 4). The Attorney General did not address this issue.

B. Standard of Review

In order for the Department to approve the issuance of stock, bonds, coupon notes, or other types of long-term indebtedness⁽⁷⁵⁾ by an electric or gas company, the Department must determine that the proposed issuance meets two tests. First, the Department must assess whether the proposed issuance is reasonably necessary to accomplish some legitimate purpose in meeting a company's service obligations, pursuant to G.L. c. 164, § 14. Fitchburg Gas & Electric Light Company v. Department of Public Utilities, 395 Mass. 836, 842 (1985) ("Fitchburg II"), citing Fitchburg Gas & Electric Light Company v. Department of Public Utilities, 394 Mass. 671, 678 (1985) ("Fitchburg I"). Second, the Department ordinarily must determine whether a company has met the net plant test.⁽⁷⁶⁾ Colonial Gas Company, D.P.U. 84-96 (1984).

The Court has found that, for the purposes of G.L. c. 164, § 14, "reasonably necessary" means "reasonably necessary for the accomplishment of some purpose having to do with the obligations of the company to the public and its ability to carry out those obligations with the greatest possible efficiency." Fitchburg II at 836, citing Lowell Gas Light Company v. Department of Public Utilities, 319 Mass. 46, 52 (1946). In cases where no issue exists about the reasonableness of management decisions regarding the requested financing, the Department limits its Section 14 review to the facial reasonableness of the purpose to which the proceeds of the proposed issuance will be put. Canal Electric Company, et al., D.P.U. 84-152, at 20 (1984); see, e.g., Colonial Gas Company, D.P.U. 90-50, at 6 (1990). The Fitchburg I and II and Lowell Gas cases also established that the burden of proving that an issuance is reasonably necessary rests with the company proposing the issuance, and that the Department's authority to review a proposed issuance "is not limited to a 'perfunctory review.'" Fitchburg I at 678; Fitchburg II at 842, citing Lowell Gas at 52. Where issues concerning the prudence of a company's capital financing have not been raised or adjudicated in a proceeding, the Department's decision in such a case does not represent a determination that any specific project is economically beneficial to a company or to its customers. In such circumstances, the Department's determination in its Order may not in any way be construed as ruling on the appropriate ratemaking treatment to be accorded any costs associated with the proposed financing. See, e.g., Boston Gas Company, D.P.U. 95-66, at 7 (1995).

Regarding the net plant test, a company is ordinarily required to present evidence that its net utility plant (original cost of capitalizable plant less accumulated depreciation) is equal to or exceeds its total capitalization (the sum of its long-term debt, preferred stock, and common stock outstanding) and will continue to do so after the proposed issuance. D.P.U. 84-96, at 5. If the Department determines at that time that the fair structural value of the net plant and land and the fair market value of the nuclear fuel, gas or fossil fuel inventories owned by the company are less than its outstanding debt and stock, it may prescribe such conditions and requirements as it deems best to make good within a reasonable time the impairment of the capital stock.

G.L. c. 164, § 16.

C. Analysis and Findings

The Petitioners have requested that the Department authorize the issuance of stock to a corporation that is not yet in existence. While one could argue that G.L. c. 164, § 14, addresses stock transfers to corporate entities only, we recognize that some flexibility must be afforded to those petitioners that require stock transfers in order to form a corporation by way of merger or acquisition. Here, the Petitioners request authority to issue stock in order to establish the framework within which the merger could be consummated. Without the authority to issue the stock, this merger would not take place. Therefore, the Department finds that the issuance of 100 shares of common stock by Merger Sub, at a par value of \$1.00, is a necessary mechanism for the purpose of forming Merger Sub and then effecting the proposed merger. Accordingly, the Department finds

that the proposed stock issuance is reasonably necessary and is in accordance with G.L. c. 164, § 14.

With regard to the net plant test requirement of G.L. c. 164, § 16, the record demonstrates that Merger Sub has no assets, and thus could not meet the net plant test as contemplated by G.L. c. 164, § 16. However, the Department notes that the purpose of the stock issuance is to set up a transient framework for the consummation of the Merger Agreement and acquisition of Colonial by Eastern. The purpose of the net plant test is to protect investors from hidden watering of stock. Application of the test has no place in a transaction as patent and transparent as the instant one. No public protective purpose would be served by applying the test here. Eastern-Essex Acquisition at 73. It is sufficient to note that the transaction is structured to prevent any adverse risk to the investing public and immediately to correct any theoretical problem with the Merger Sub shares. Therefore, the Department finds it unnecessary to impose further conditions upon Merger Sub under G.L. c. 164, § 16.

VI. CONFIRMATION OF MERGER SUB'S FRANCHISE RIGHTS

A. Introduction

The Petitioners requested that the Department confirm that Merger Sub, as the surviving company of the merger between Merger Sub and Colonial, will continue to have all the franchise rights and obligations that were previously held by Colonial, and that further legislative action pursuant to G.L. c. 164, § 21, is not necessary to consummate the Merger Agreement (Petition at 6). The Attorney General did not address this issue on brief.

B. Analysis and Findings

On the effective date of the transfer, Merger Sub will have and enjoy all the powers, rights, locations, licenses, privileges and franchises and be subject to all the duties, liabilities and restrictions of Colonial, pursuant to G.L. c. 164, § 96. The Department finds that approval of the merger pursuant to G.L. c. 164, § 96, obviates the need in this case for legislative approval under G.L. c. 164, § 21. Haverill Gas Company, D.P.U. 1301, at 4-5 (1984). Accordingly, the Department hereby ratifies and confirms that all the franchise rights and obligations currently held by Colonial shall continue with Merger Sub after the consummation of the merger.

VII. SUMMARY

The Department has evaluated the benefits and costs associated with the merger based on the following six factors: (1) the effect on rates and resulting net savings; (2) the effect on service quality; (3) the financial integrity of the post-merger entity; (4) the fairness of the distribution of resulting benefits between shareholders and ratepayers; (5) the societal costs; and (6) the acquisition premium.

(1) The Department has found that a ten-year base rate freeze will benefit Colonial's ratepayers. Further, the Department recognizes that the proposed merger will provide Colonial's ratepayers with savings in gas costs that would have been unavailable absent the merger;

(2) The Department has ordered the collection of data and the development and subsequent implementation of a plan to ensure that Colonial's ratepayers experience no degradation of service following the merger;

(3) The Department has found that Colonial is a viable company and that the merger would not adversely affect Colonial's financial integrity;

(4) The Department has found that the distribution of resulting benefits between shareholders and ratepayers is fair;

(5) The Department has found that the effects of the merger on Colonial's workforce will be managed, tracked, and reported so as to mitigate workforce disruption without loss of opportunity for synergistic savings;

(6) The Department has found that earnings dilution to Eastern's shareholders that results from the merger represents a cost that may and should be taken into consideration as part of the evaluation of the costs and benefits of the merger. The Department found that the proposed purchase price for Colonial's common stock and proposed exchange ratio are reasonable. Therefore, the Department accepted the petitioners' estimate of \$207 million for the acquisition premium and has found it to be reasonable. However, the Department has reminded the Petitioners that they are voluntarily at risk for non-recovery of the premium to the extent that they may fail to make the requisite showing of offsetting benefits in accordance with the tracking mechanism that Petitioners have voluntarily proposed.

Accordingly, the Department has determined that pursuant to G.L. c. 164, § 96, the merger is in the public interest and approved.

VIII. ORDER

Accordingly, after due notice, hearing and consideration, the Department

VOTES: That pursuant to G.L. c. 164, § 14, the proposed issuance of 100 shares of common stock of Merger Sub at a par value of \$1.00 per share, is reasonably necessary for the purposes stated; and it is

ORDERED: That pursuant to G.L. c. 164, § 14, the issuance by Merger Sub of 100 shares of common stock to Eastern Enterprises in consideration of \$100 by Eastern Enterprises is hereby approved and authorized; and it is

FURTHER ORDERED: That pursuant to G.L. c. 164, § 96, merger of Colonial Gas Company into Merger Sub is hereby approved; and it is

FURTHER ORDERED: That pursuant to G.L. c. 164, § 96, the Agreement and Plan of Merger dated as of October 17, 1998, between Colonial Gas Company and Eastern Enterprises, and the terms thereof, are hereby approved as consistent with the public interest; and it is

FURTHER ORDERED: That pursuant to G.L. c. 164, § 94, and subject to the terms or conditions of this Order, the Rate Plan for Colonial Gas Company is hereby approved; and it is

FURTHER ORDERED: That, it is confirmed that upon consummation of the merger of Merger Sub and Colonial Gas Company, Merger Sub, as the surviving company, operating under the name "Colonial Gas Company," shall have all rights, powers, privileges, franchises, properties, real, personal or mixed, and immunities held by Colonial Gas Company necessary to engage in all activities of a gas utility company in all the cities and towns in which Colonial Gas Company was engaged immediately prior to the merger, and that further action pursuant to

G.L. c. 164, § 21 is not required to consummate the merger; and it is

FURTHER ORDERED: That a copy of the journal entries, or a schedule summarizing such entries, recording the effect of the merger shall be filed with the Department upon consummation of the merger; and it is

FURTHER ORDERED: That the Secretary of the Commission notify the Secretary of State of the issuance of stock and deliver a certified copy of this Order to the Secretary of State within five business days hereof; and it is

FURTHER ORDERED: That the Petitioners shall comply with all directives contained in this Order.

By Order of the Department,

_____ Janet Gail Besser, Chair

_____ James Connelly, Commissioner

W. Robert Keating, Commissioner

Paul B. Vasington, Commissioner

Eugene J. Sullivan, Jr., Commissioner

Appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk

of said Court. (Sec. 5, Chapter 25, G.L. Ter. Ed., as most recently amended by Chapter 485 of the Acts of 1971).

1. Merger Sub will be formed as a gas company under G.L. c. 164, § 1. Merger Sub will be a wholly-owned subsidiary of Eastern pursuant to the Agreement and Plan of Reorganization by and between Eastern and Colonial dated October 17, 1998 (Petition at 2). Merger Sub will be the surviving entity upon merger with Colonial, but the surviving entity will conduct business under the corporate name "Colonial Gas Company" (id.). Reference to "Colonial" throughout this Order should be understood accordingly.

2. In 1997, Eastern established two additional subsidiaries, ServEdge Partners, Inc. ("ServEdge"), and AMR Data Corporation (Exh. WJF-1, at 3). ServEdge provides heating, ventilation and air-conditioning products and services, while AMR Data Corporation provides meter service to electric, gas and water utilities throughout the Northeast (id.).

3. The actual exchange ratio would be adjusted as necessary if Eastern's common stock falls below \$37.56 per share or rises above \$47.80 per share as measured by the average of the per share closing prices of Eastern's common stock for the ten trading days ending on the third trading day prior to the effective date of the Merger Agreement (the closing date as described in Articles 1.2 and 1.6(a)(i) of the Merger Agreement) (Petition, Merger Agreement at 2-3).

4. An acquisition premium represents the difference between the acquisition price and the net book value of the acquired company. Mergers and Acquisitions, D.P.U. 93-167-A at 9 (1994). Accounting rules require that any acquisition premium paid be recorded on the books of the acquired company and be amortized over a period not to exceed 40 years (Exh. JDH-1, at 9).

5. Based on the difference between Colonial's book value of \$14.11 per share and the purchase price of \$37.50 per share, with 8,853,349 shares outstanding, the premium would be \$199.2 million (Exh. WJF-1, at 12). By including the \$8 million premium for Transgas, the acquisition premium would total \$207.2 million (Petition at 4).

6. The Department notes that a finding that a proposed merger or acquisition would probably yield a net benefit does not mean that such a transaction must yield a net benefit to satisfy G.L. c. 164, § 96 and D.P.U. 850.

7. The factors set forth in Mergers and Acquisitions parallel the Department's analysis in an earlier § 96 merger case, Boston Gas Company, D.P.U. 17138, at 9-10 (1971).

8. Thus, Mergers and Acquisitions removed the per se bar to recovery of acquisition premiums and treated them as just another kind of cost to be reckoned in the balancing of costs and benefits required by G.L. c. 164, § 96, and D.P.U. 850. "An acquisition premium is generally defined as representing the difference between the purchase price paid by a utility to acquire plant that previously had been placed into service and the net depreciated cost of the acquired plant to the previous owner." Mergers and Acquisitions at 9. An acquisition premium may also be incurred by payment of greater than market price of traded shares in order to acquire, not just utility plant, but a going enterprise in its entirety.

9. The effect on rates and resulting net savings are listed separately as factors (1) and (3), respectively, in Mergers and Acquisition at 7-8. In this case, the bulk of the savings associated with the merger falls within the rate freeze. Therefore, the Department has considered, concomitantly, the effect that the merger has on rates and the resulting net savings. Mergers and Acquisitions at 7-9 treats these factors discretely. In assessing the instant petition, however, it is convenient to discuss these factors together.

10. In their original proposal, the Petitioners included a third component in the Rate Plan, \$13 million in avoided technology investments, but later revised their proposal to incorporate this avoided investment in the savings associated with the ten-year base rate freeze (Exh. NS-1, at 7).

11. LBR is the non-gas-cost portion of a gas utility's base rates that is lost between rate cases as a result of reduced sales caused by the implementation of demand side management ("DSM") programs. Boston Gas Company, D.P.U. 90-17/18/55, at 139 (1990). Because a company's allowed base revenue requirement is recovered through rates that are based on sales in the test year, the implementation of Department-approved DSM measures between rate cases reduces sales and may preclude a company from recovering all of its base revenue requirement. In approving recovery of LBR, the Department sought to "restore the assumed relationship between sales levels and revenue requirements that were used in setting rates." Western Massachusetts Electric Company, D.P.U. 89-260, at 105 (1990). To date, the Department has allowed LDCs to recover LBR associated with each measure installed pursuant to the LDCs' DSM programs over the life of the measure.

12. A revenue requirement is defined as the cost of service for a utility company, which includes the recovery of taxes and a return on rate base. The cast-off revenue requirement represents Colonial's cost of service as of the beginning of year one of the rate freeze. See discussion of the benchmarking function of a cast-off revenue requirement at Section IV.A.c. infra.

13. Colonial began with a 1997 test year and adjusted it in an attempt to approximate a 1999 test year (Tr. 4, at 628, 631).

14. The 1.5 percent productivity offset is composed of a zero percent productivity and input price growth index, a 1.0 percent accumulated inefficiencies factor, and a 0.5 percent consumer dividend. D.P.U. 96-50-C at 55-59 (1997). The productivity and input price growth indexes indicate the average annual growth in productivity and input prices during a specified time period, for the companies that comprise a regulated industry. D.P.U. 96-50, at 274. The accumulated inefficiencies factor exhibits the inefficiencies built into base rates because of the historic use of cost of service regulation. Id. The consumer dividend signifies the expected future gains in productivity for companies that make up an industry, due to the move from cost of service regulation to PBR. Id. .

15. Boston Gas is appealing several issues in D.P.U. 96-50, including the accumulated inefficiencies portion of the Department-ordered productivity offset (i.e., 1.0 percent); it is not appealing the 0.5 percent consumer dividend (Tr. 6, at 894). See appeal docketed as Boston Gas Company v. Department of Public Utilities, SJC-07970. The Department notes that unlike the Rate Plan under review here, D.P.U. 96-50 and D.P.U. 96-50-C ruled on a proposed PBR

16. During hearings, the Petitioners made upward and downward adjustments to this amount. Although the dollar amount varied somewhat at points in the transcribed portion of the record, the Petitioners did not provide revised exhibits each time an adjustment was made. The \$127.6 million figure was referenced by the Petitioners on brief and is the amount addressed by the Department throughout this Order.

17. For example, the \$92 million revenue requirement multiplied by the year 2000 forecast of GDP-PI of 3.2 percent less the productivity offset of 1.0 percent produces an annual base rate increase of \$2,024,242 ($\$92,011,000 \times .032 - .01$). Adding that amount to \$92,011,000 multiplied by the year 2001 forecast of GDP-PI of 2.2 percent less the productivity offset of 1.0 percent produces an annualized base rate increase of \$1,128,422 ($((\$92,011,000 + \$2,024,242) \times (.022 - .01))$) (Exh. DTE 4-8). Carried out to the end of the rate freeze in 2009, the sum of the annual adjustments equals \$127.6 million (Exhs. DTE 4-8; JFB-2, at 3).

18. Normalized 1997 revenues of \$183,647,105 minus gas costs of \$99,310,603 equals \$84,336,502. $\$84,336,502 \times [(1+.0326)^4 - 1] = \$11,546,494$ (Attorney General Brief at 15 n.12).

19. The tracking mechanism is used to measure (1) the savings associated with the avoidance of a rate case over the ten years, and (2) what Colonial's revenue requirement would be at the end of year ten of the rate freeze had Colonial operated during that time on a stand-alone basis (Tr. 4, at 630).

20. The Department will open a generic proceeding to exercise the discretionary authority granted by G.L. c. 164, § 1E, by Order of Notice issued on or about October 1, 1999.

21. The Department points out that the rate increase sought by a company in a general rate case is not necessarily indicative of the amount the company would be granted.

22. We emphasize that, where in a § 96 proceeding, the Department employs or alludes to rate case (i.e., § 94) precedent, it does so because such analogies may be analytically useful - not because such precedent controls a § 96 outcome.

23. Unlike the instant case, the petitioners in Eastern-Essex Acquisition proposed a model for recovery of the acquisition premium wherein they sought to make such a showing "up front." See Eastern-Essex Acquisition. While it is preferable to make a definitive showing of "no net harm" in the initial § 96 proceeding, NIPSCO-Bay State Acquisition at 44 (citing the case of Eastern-Essex Acquisition at 57, wherein the petitioners "quantified up-front all of the expected benefits, as directed by Merger and Acquisitions at 7, and committed to a path that could be evaluated and approved by the Department in one event"), there is precedent for what the Petitioners here propose. NIPSCO-Bay State Acquisition at 44-46. All acquisitions will have peculiar characteristics, and the Department has committed to a case-by-case review and thus to reviews tailored to circumstances presented. Mergers and Acquisitions at 7.

24. Each division has a separate rate structure (Tr. 8, at 1091).

25. The Petitioners included in their cast-off revenue requirement, \$2,311,200 in avoided technology investments for Cape Cod to account for investments already made in technology that will not be used post-merger (Exh. DTE 4-3 (Rev.) at Table 8).

26. The Attorney General appears to indicate that the Department has defined "insignificant" in terms of a targeted range of percentages for rate base (Attorney General Brief at 16).

27. The Petitioners calculated this amount as the proportion of payroll charged to cost of service to total payroll (Exh. DTE 4-3, at 36).

28. This total was calculated by adding the following wages:

Clerical \$3,303,899

Direct Labor \$1,210,757

Supervisory \$8,785,709

Exh. DTE 4-4 (Rev.).

29. The Attorney General argues that because the Petitioners have already decreased the cost of service by \$550,000 to account for the reduction in employees associated with the Customer and CAD systems, the net adjustment to account for the reduction in employees should be \$762,144 (\$1,312,144 - \$550,000) (Attorney General Brief at 24). Further, the Attorney General argues that since the average benefit loader for Colonial during 1997 was 30 percent, the cost of service should be reduced by an additional

\$228,643 to account for the benefits no longer paid for the 44 employees who are no longer employed by Colonial (Attorney General Brief at 24).

30. Mergers and acquisitions are desirable generally because of savings from economies of scope and scale, or "synergies." Eastern-Essex Acquisition at 6 n.8, 66. Merged enterprises achieve synergistic savings, in part, by rationalizing their joint workforce. In Eastern-Essex Acquisition at 43-44, 54 n.38, the Department expressed concern over the tensions between streamlining operations and displacement of workers. Colonial, anticipating a possible merger, has sought to avoid worker displacement by leaving positions unfilled (Petitioners Reply Brief at 26; Tr. 9, at 1215). To adopt the Attorney General's suggestion to cut likely workforce estimates by 9.9 percent would perversely encourage hirings leading inevitably to displacement. That would thwart the Department's intentions with respect to mitigation of effects on displaced employees, as expressed in Eastern-Essex Acquisition at 44, 67.

31. The \$318,898 amount represents the expense portion of the \$410,000 accrual (\$410,000 X .7778).

32. As directed in Section IV.2.m, infra, the Petitioners shall calculate the allowed revenues based on the Department's findings on each cast-off revenue requirement issue.

33. Fees are calculated on a per-customer basis (Exh. DTE 4-3 (Rev.) at 16).

34. The Department calculates the potential savings as follows: \$14.0 million estimated savings over the term of the rate freeze minus \$4.1 million in one-time contract termination fees.

35. The Attorney General referenced the amount \$13,169,000 on brief, but the exact amount is \$13,169,494.

36. However, the value of Colonial's equity in Transgas as specified in the return to the Department is incorrect and does not reflect the \$8 million dividend declared and paid by Transgas to Colonial. The Department directs the Petitioners to provide the Department with revised pages to the annual report filed with the Department for year-ended 1997 that accurately states Colonial's equity value in Transgas.

37. The \$140,000 threshold was computed by multiplying Colonial's and Boston Gas' relevant 1997 operating revenues and number of customers by the \$500,000 threshold approved for Boston Gas in D.P.U. 96-50, at 293 (Exh. DTE 4-20).

38. Colonial is currently recovering LBR through the local distribution adjustment clause ("LDAC"). The LDAC is a mechanism that allows an LDC to recover, or credit on a fully reconciling basis, costs that have been determined to be distribution-related costs but are not included in base rates. Such costs include demand-side management costs, environmental response costs associated with manufactured gas plants, and Federal Regulatory Commission Order 636 transition costs. The LDAC is applicable to all firm

customers (both sales and transportation). Eastern-Essex Acquisition at 6 n.9; NIPSCO-Bay State Acquisition at 12 n.16.

39. In accordance with 220 C.M.R. § 1.10 (3), the Department takes administrative notice of Bay State's 1998 annual report.

40. Performance Based Rate plans excepted.

41. A Data Envelopment Analysis or "frontier study" contrasts the target company (e.g., Colonial) to a group of its most efficient "peers" in the industry who form "a frontier" (in mathematical space) (Exh. AG-2, at 12-16). In this case, Colonial was compared to N W Natural, North Shore Gas Company, Mountaineer Gas Company, North Attleboro Gas Company, and Brooklyn Union Gas Company which made up the "efficient frontier." Companies are selected based on their similarity to the target in terms of mathematical input variables (Exh. AG-2, at 20-26).

42. The Malmquist DEA study attempts to measure total factor productivity in the entire industry over multiple years (three years) (Exh. AG-2, at 31). Total factor productivity indices are constructed mathematically by assessing technology-induced efficiency indices that are mathematical distance functions from the frontier and by assessing the mathematical distance functions that characterize the nature of the frontier itself (id. at 27).

43. The Tornqvist analysis of total factor productivity uses similar variables to those employed by the Malmquist analysis but has the capability of examining longer time series of data (10 years) and also takes into account market demand features. It also makes differing mathematical assumptions (id. at 33-34).

44. Total factor productivity is the technological improvement of the industry and the improvement of the company being studied in terms of its technological efficiency (getting closer to the "frontier") (Exh. AG-2, at 27).

45. With respect to the analysis used to develop total factor productivity, the Department notes that the Petitioners may have drawn an unwarranted conclusion regarding the type of productivity analysis preferred by the Department in D.P.U. 96-50. The Department did not reject outright the use of a national sample of LDCs upon which to base productivity studies. Use of national data has some value, but must be tempered by resort to regional samples more likely to be characteristic of the local conditions under which a Massachusetts company, under comparison, actually operates. D.P.U. 96-50, at 275-278.

46. See appeal docketed as SJC-07970.

47. Since (1) the cast-off revenue requirement is the starting point for the tracking mechanism, and (2) that amount will be recalculated by the Petitioners as directed in Section IV.A.4.m., the \$111.2 million will change accordingly.

48. The first term of Boston Gas' PBR plan is from December 1, 1996 through November 30, 2001. D.P.U. 96-50, at 260.

49. The CGAC permits periodic billing changes to recover, on a fully reconciling basis, the LDCs' cost of gas from ratepayers outside of base rate proceedings.

50. Colonial's Lowell division is connected to the Tennessee Gas Pipeline Company and its Cape Cod division is connected to the Algonquin Gas Transmission Company. Both pipelines serve Boston Gas.

51. Displacement is the substitution of a source of natural gas at one point for another source of natural gas at another point.

52. A backhaul is a transaction that results in the transportation of gas in a direction opposite of the aggregate physical flow of gas in the pipeline.

53. M&NE is a new natural gas pipeline currently under construction from Sable Island Bank, Nova Scotia to Dracut, Massachusetts. The anticipated in-service date of the pipeline is November, 1999 (Tr. 6, at 796). Sable Island Bank is an uplifted area of the continental shelf East-Southeast of Halifax. The Bank's hydrocarbon potential appears substantial, and its first production will soon reach the market. The Dracut interconnection will be with Tennessee.

54. DOMAC is a FERC-regulated, marine importer of liquified natural gas ("LNG") from Algeria and from Trinidad and Tobago. DOMAC's import terminal is located in Everett, Massachusetts.

55. The \$.12/MMBtu cost difference, according to the Petitioners, is derived by taking the difference between the New York Mercantile Exchange ("NYMEX") based average price (using a normal year forecast) for DOMAC's winter vapor service from the NYMEX-base average long-haul price of Boston Gas' pipeline gas (Exh. DTE 7-26). NYMEX is a North American based commodity futures exchange and trading forum for energy and precious metals.

56. Boston Gas is entitled to 42,666 MMBtu of Sable Island volumes beginning in 2000/2001, that were to be transported from M&NE to Boston Gas' city gate using Tennessee backhaul service (Exh. WRL-1, at 7).

57. The Petitioners developed this value by using the design year forecast of Boston Gas and Colonial Gas for the split year 1999/2000 (Exh. DTE 7-26). Synergies within the portfolios of the two companies reduce the design year sendout of DOMAC vapor by 225,000 MMBtu over the 151-day heating season (id.). According to the Petitioners, this would therefore allow a reduction in DOMAC vapor deliverability by 1,500 MMBtu/day (id.).

58. The Petitioners state that Colonial's DOMAC contract will expire on October 31, 2000 (Exh. DTE 3-38, Att. 1, at 7). The Petitioners represent that entering into a new contract with DOMAC, but on new or restructured terms yet to be arranged, presents an opportunity for the projected savings (Exhs. DTE 3-44; DTE 3-45). The Petitioners further represent that under Colonial's restructured DOMAC contract, DOMAC will provide vaporized LNG to Boston Gas at the DOMAC Everett, Massachusetts facility. In return, Boston Gas will provide Colonial with pipeline gas via Algonquin (Tr. 6, at 803-805).

59. Figures in this column represent total estimated annual savings for each of the remaining nine years of the rate freeze.

60. The service quality plan approved by the Department in Eastern-Essex Acquisition was modeled after that approved in D.P.U. 96-50.

61. The Department's Consumer Division collects data for each company that detail the number of customer calls and complaints relating to a company's service quality. The data include, but are not limited to, complaints about inaccurate billing, metering, termination of service, improper or inadequate notice provisions, inability to reach the company, adherence to Department regulations, employee rudeness, and low gas pressure. The Division tabulates the data on a daily basis, keeps a record of each complaint that requires some investigation and, if requested by a company, forwards the data to the company each month.

62. In his reply brief, the Attorney General proposed an alternative service quality plan (Attorney General Reply Brief at 11-14). As the Attorney General did not adduce the record evidence needed to evaluate such a request, the Department will not consider this proposal.

63. The 18 months referred to consists of six months for systems integration and twelve months for the collection of baseline data.

64. Boston Gas has also appealed from the penalty provision of D.P.U. 96-50 in the pending matter docketed as SJC-07970. The appellant questions the Department's authority to impose penalties in that case.

65. The frequency of employees' missing work as a result of employment-related accidents may affect a company's quality of service. Minimizing work-related accidents benefits not only the employees, but also the ratepayers, who rely on employees to provide safe installations and repairs. Hence, this is a valid measurement to be included in a company's service quality plan.

66. We also invite comments from the parties in this case and other interested persons on the data that the Consumer Division collects, how they are collected, what statistical measurements are and will be pertinent in the emergent gas market, and how Consumer Division data and derivative statistics can be deployed in measuring LDC service quality.

We direct the Petitioners to work with the Consumer Division and the Department's General Counsel over the aforementioned 18-month period to address these issues.

67. The Department takes administrative notice of Colonial's Annual Returns to the Department for the years 1981 through 1998 pursuant to 220 C.M.R. § 1.03(3).

68. The Petitioners will begin to amortize the acquisition premium during the ten-year term of the rate freeze and will not seek to recover any of the amortization of the acquisition premium from that ten-year period at the end of the rate freeze (Exh. JFB-1, at 19). In other words, the Petitioners may not defer recovery of the entire acquisition premium to the 30 post-rate freeze years (id.).

69. This point is also discussed at note 28 supra, in the context of cast-off revenue calculations and leaving positions unfilled (and thereby avoiding worker displacement) in anticipation of a merger proposal.

70. The Attorney General has proposed that the Department direct Eastern and Colonial to enter into either a management services agreement or a tax sharing agreement with Colonial (Attorney General Brief at 40). The Attorney General failed to adduce the record evidence needed to evaluate, much less to approve or deny, such a request. As a result, the lack of substance in the Attorney General's recommendation prevents its being considered.

71. The Petitioners indicate that system integration expenses of approximately \$18.2 million include costs to consolidate duplicative systems, and to pay early retirement and severance packages (Exhs. JFB-7 (Rev.); DTE 3-25; Tr. 6, at 848-853). The Petitioners state that the costs to complete the merger are approximately \$11.6 million, consisting of legal, accounting, and financial expense (Exhs. JFB-6; DTE 1-24; DTE 1-25(a)).

72. This value is based on the purchase price of \$37.50 per Colonial share, multiplied by 8,853,349 Colonial shares outstanding (Exh. WJF-1, at 12)

73. The actual acquisition premium is \$207.2 million, which includes \$8 million for the portion of the acquisition premium associated with Transgas (Exh. WJF-1, at 12). Because the \$8 million represents the acquisition premium for Colonial's non-regulated business, that figure is subtracted from the actual acquisition premium. Thus, the acquisition premium for Colonial's gas distribution business is 199.2 million (id.).

74. Moreover, the Department's standard for recovery of acquisition premium is broad enough to contemplate less than full recovery: "On the other hand, the Department will not automatically allow recovery of all premiums associated with each and every merger." Mergers and Acquisitions at 18. Therefore, there is no need to revise our policy in response to the Attorney General's argument. Further, there is no necessary conceptual inconsistency between full recovery of premium and satisfying the D.P.U. 850 "no net harm" test. Rationalizing utility industry structure requires a flexible approach to premium recovery.

75. Long-term refers to periods of more than one year after the date of issuance.
G.L. c. 164, § 14.

76. The net plant test is derived from G.L. c. 164, § 16.